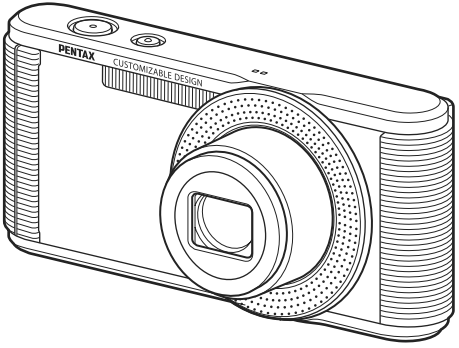
PENTAX

EN

Digital Camera

Optio LS465

Operating Manual



To ensure the best performance from your camera, please read the Operating Manual before using the camera.

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Thank you for purchasing this PENTAX Digital Camera.
Please read this manual before using the camera in order to get the most out of all the features and functions. Keep this manual safe, as it can be a valuable tool in helping you to understand all the camera's capabilities.

Regarding copyrights

Images taken with the PENTAX Digital Camera that are for anything other than personal enjoyment cannot be used without permission according to the rights as specified in the Copyright Act. Please take care, as there are cases where limitations are placed on taking pictures even for personal enjoyment during demonstrations, performances or of items on display. Images taken with the purpose of obtaining copyrights also cannot be used outside the scope of use of the copyright as laid out in the Copyright Act, and care should be taken here also.

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- Macintosh and Mac OS are trademarks of Apple Inc., registered in the U.S. and other countries.
- All other brands or product names are trademarks or registered trademarks of their respective companies. In this manual, the ™ and ® marks are not specified.

- This product supports PRINT Image Matching III. PRINT Image Matching enabled digital still cameras, printers and software help photographers to produce images more faithful to their intentions. Some functions are not available on printers that are not PRINT Image Matching III compliant.
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  PRINT Image Matching is a trademark of Seiko Epson Corporation. The PRINT Image Matching logo is a trademark of Seiko Epson Corporation.

Regarding Product Registration

In order to better serve you, we request that you complete the product registration, which can be found on the CD-ROM supplied with the camera or the PENTAX website. Thank you for your cooperation.
Refer to "Connecting to a Computer" (p.137) for more information.

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To users of this camera

- Do not use or store this device in the vicinity of equipment that generates strong electromagnetic radiation or magnetic fields.
  Strong static charges or the magnetic fields produced by equipment such as radio transmitters could interfere with the monitor, damage the stored data, or affect the product's internal circuitry and cause camera misoperation.
- The liquid crystal panel used for the display is manufactured using extremely high precision technology. Although the level of functioning pixels is 99.99% or better, you should be aware that 0.01% or fewer of the pixels may not illuminate or may illuminate when they should not. However, this has no effect on the recorded image.
- If you point the camera toward an object that is bright, a band of light may appear on the screen display. This phenomenon is referred to as "smear" and is not a malfunction of the camera.
- There is a possibility that the illustrations and the screen display in this manual are different from the actual ones.
- In this manual, SD Memory Cards, SDHC Memory Cards, and SDXC Memory Cards are referred to as SD Memory Cards hereafter.
- In this manual, the generic term "computer(s)" refers to either a Windows PC or a Macintosh hereafter.
- In this manual, the term "battery(ies)" refers to any type of batteries used for this camera and its accessories.

Using Your Camera Safely

We have paid close attention to the safety of this product. When using this product, we request your special attention regarding items marked with the following symbols.

Warning This symbol indicates that violating this item could cause serious personal injuries.

Caution This symbol indicates that violating this item could cause minor or medium personal injuries, or loss of property.

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About the Camera

⚠ Warning

- Do not disassemble or modify the camera. High voltage areas are present inside the camera, with the risk of electric shock.
- If the camera interior is exposed due to dropping or otherwise damaging the camera, never touch the exposed portion. There is a risk of electric shock.
- Wrapping the strap around your neck is dangerous. Take care that small children do not hang the strap around their necks.
- If any irregularities occur during use, such as smoke or a strange odor, stop use immediately, remove the battery, and contact your nearest PENTAX Service Center. Continuing to use the camera can cause a fire or electric shock.

⚠ Caution

- Do not place your finger over the flash when discharging the flash. You may burn yourself.
- Do not cover the flash with clothes when discharging the flash. Discoloration may occur.
- Some portions of the camera heat up during use. There is a risk of low temperature burns when holding such portions for long periods.
- Should the monitor be damaged, be careful of glass fragments. Also, be careful not to allow the liquid crystal to get on your skin, in your eyes or mouth.
- Depending on your individual factors or physical condition, the use of the camera may cause itching, rashes or blisters. In case of any abnormality, stop using the camera and get medical attention immediately.

About the Power Adapter

⚠ Warning

- Always use the power adapter exclusively developed for this camera, with the specified power and voltage. Using a power adapter not exclusive to this camera, or using the exclusive power adapter with an unspecified power or voltage can cause a fire, electric shock, or camera breakdown. The specified voltage is 100 - 240V AC.

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- Do not disassemble or modify the power adapter. This can cause a fire or electric shock.
- If the generation of smoke or strange odor from the power adapter or other abnormality occurs, immediately discontinue use and consult a PENTAX Service Center. Continuing to use the adapter can cause a fire or electric shock.
- If water should happen to get inside the power adapter, consult a PENTAX Service Center. Continuing to use the adapter can cause a fire or electric shock.
- If a thunder storm should occur while using the power adapter, unplug the adapter and discontinue use. Continuing to use the adapter can cause damage to the equipment, fire, or electric shock.
- Wipe off the plug of the power adapter if it becomes covered with dust. Accumulated dust on the plug may cause a fire.

⚠ Caution

- Do not place or drop heavy objects on the power adapter. Doing so may damage the adapter. Should the power adapter be damaged, consult a PENTAX Service Center.
- Do not touch or short-circuit the terminal area of the power adapter while the cord is plugged in.
- Do not handle the power adapter with wet hands. This can cause an electric shock.
- Do not drop the power adapter, or subject it to violent impact. This can cause equipment breakdown.
- Do not use the power adapter to charge a battery other than a rechargeable lithium-ion battery D-LI108. This can cause an explosion, or heating, or may damage the power adapter.

About the Battery

⚠ Warning

- Be sure to store the battery out of the reach of small children. Placing it in their mouths may cause an electric shock.
- If any leakage from the battery should come in contact with your eyes, do not rub them. Flush your eyes with clean water and get medical attention immediately.

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⚠ Caution

- Only use the specified battery with this camera. Use of other batteries may cause an explosion or fire.
- Do not disassemble the battery. Disassembling the battery may cause an explosion or leakage.
- Remove the battery from the camera immediately if it becomes hot or begins to smoke. Be careful not to burn yourself during removal.
- Keep wires, hairpins, and other metal objects away from the + and - contacts of the battery.
- Do not short the battery or dispose of the battery in fire. This can cause an explosion or fire.
- If any leakage from the battery should come in contact with skin or clothes, wash the affected areas thoroughly with water.
- Precautions for D-LI108 Battery Usage:
  BATTERY MAY EXPLODE OR FIRE IF MISTREATED.
  - DO NOT DISASSEMBLE OR DISPOSE OF IN FIRE.
  - DO NOT CHARGE EXCEPT SPECIFIED CHARGING CONDITION.
  - DO NOT HEAT ABOVE 140°F / 60°C, OR SHORT CIRCUIT.
  - DO NOT CRUSH OR MODIFY.

Keep the Camera and its Accessories out of the Reach of Small Children

⚠ Warning

- Do not place the camera and its accessories within the reach of small children.
  1. If the product falls or is operated accidentally, it may cause serious personal injuries.
  2. Wrapping the strap around a neck may cause suffocation.
  3. To avoid the risk of a small accessory such as the battery or SD Memory Cards from being swallowed by mistake, keep them out of the reach of small children. Seek medical attention immediately if an accessory is accidentally swallowed.

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Care to be Taken During Handling

Before Using Your Camera

- When traveling, take the Worldwide Service Network listing that is included in the package. This will be useful if you experience problems abroad.
- When the camera has not been used for a long time, make sure that it is still working properly, particularly prior to taking important pictures (such as at a wedding or when traveling). Contents of the recording cannot be guaranteed if recording, playback or transferring your data to a computer, etc. is not possible due to a malfunction of your camera or recording media (SD Memory Card), etc.

About the Battery

- Storing the battery fully charged may decrease the battery performance. Avoid storing in high temperatures.
- If the battery is left inserted and the camera is not used for a long time, the battery will over-discharge and shorten the battery's life.
- Charging the battery a day before use or on the day of use is recommended.

Precautions on Carrying and Using Your Camera

- Do not subject the camera to high temperatures or high humidity. Do not leave the camera in a vehicle, as the temperature can get very high.
- Do not subject the camera to strong vibrations, shocks, or pressure. Use a cushion to protect the camera from vibrations of motorcycles, automobiles, or ships.
- The temperature range for camera use is 0°C to 40°C (32°F to 104°F).
- The monitor may appear black at high temperatures, but will return to normal at normal temperatures.
- The monitor may respond more slowly at low temperatures. This is due to liquid crystal properties, and is not a malfunction.
- Sudden temperature changes will cause condensation on the inside and outside of the camera. Place the camera in your bag or a plastic bag, and remove it after the temperature of the camera and surroundings are equalized.

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- Avoid contact with garbage, mud, sand, dust, water, toxic gases, or salt. These could cause the camera to breakdown. Wipe the camera to dry off any rain or water drops.
- Please do not press forcefully on the monitor. This could cause it to break or malfunction.
- Be careful not to sit down with the camera in your back pocket as this may damage the exterior of the camera or the display.
- Be careful not to overtighten the tripod screw when using a tripod.
- The lens on this camera is not interchangeable. The lens is not removable.

Cleaning Your Camera

- Do not clean the camera with organic solvents such as thinner, alcohol or benzine.
- Use a lens brush to remove dust accumulated on the lens. Never use a spray blower for cleaning as it may damage the lens.

Storing Your Camera

- Do not store the camera with preservatives or chemicals. Storage in high temperatures and high humidity can cause mold to grow on the camera. Remove the camera from its case and store it in a dry and well-ventilated location.
- Avoid using or storing the camera where it may be exposed to static electricity or electrical interference.
- Avoid using or storing the camera in direct sunlight or where it may be exposed to rapid changes in temperature or to condensation.

Other Precautions

- Periodic inspections are recommended every one to two years to maintain high performance.
- Please note that deleting data, or formatting the SD Memory Cards or the built-in memory does not completely erase the original data. Deleted files can sometimes be recovered using commercially available software. It is user's responsibility to ensure the privacy of such data.

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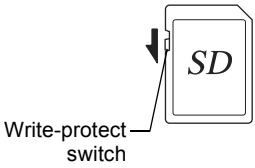
- The SD Memory Card is equipped with a write-protect switch. Setting the switch to LOCK prevents new data from being recorded on the card, the stored data from being deleted, and the card from being formatted by the camera or computer. appears on the display when the card is write-protected.



- Care should be taken when removing the SD Memory Card immediately after using the camera, as the card may be hot.
- Keep the battery/card cover closed and do not remove the SD Memory Card or turn the camera off while the data is being played back or saved to the card, or the camera is connected to a computer with the USB cable, as this may cause the data to be lost or the card to be damaged.
- Do not bend the SD Memory Card or subject it to violent impact. Keep it away from water and store away from high temperature.
- Do not remove the SD Memory Card during formatting as this may damage the card and render it unusable.
- The data on the SD Memory Card may be deleted in the following circumstances. We do not accept any liability for data that is deleted
  (1) when the SD Memory Card is mishandled by the user.
  (2) when the SD Memory Card is exposed to static electricity or electrical interference.
  (3) when the SD Memory Card has not been used for a long time.
  (4) when the SD Memory Card is ejected or the battery is removed while the data on the card is being recorded or accessed.
- If it is not used for a long time, the data on the card may become unreadable. Be sure to regularly make a backup of important data on a computer.
- When using an SD Memory Card with a slow recording speed, recording may stop while you are taking movies even when there is adequate space in the memory, or shooting and playback may take a long time.
- Be sure to format SD Memory Cards that are unused or have been used on another camera. Refer to “Formatting the Memory” (p.123).

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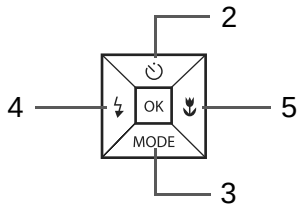
In this manual, the method for operating the four-way controller is shown in illustrations, such as in the ones below.



The meanings of the symbols used in this Operating Manual are explained below.

1	indicates the reference page number for an explanation of the related operation.
memo	indicates information that is useful to know.
Caution	indicates precautions to be taken when operating the camera.
A mode	This is the mode for capturing still pictures and recording movies.
▶ mode	This is the mode for viewing still pictures and playing back movies.

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Composition of the Operating Manual

This Operating Manual contains the following chapters.

1 Getting Started

This chapter explains what you need to do after purchasing the camera before you start taking pictures. Be sure to read this chapter and follow the instructions.

2 Common Operations

This chapter explains common operations such as the functions of the buttons and how to use the menus. For more details, refer to the respective chapters below.

3 Taking Pictures

This chapter explains the various ways of capturing images and how to set the relevant functions.

4 Playing Back and Deleting Images

This chapter explains how to view still pictures and movies on the camera or on a TV screen and how to delete them from the camera.

5 Editing and Printing Images

This chapter explains how to edit still pictures on the camera and how to print them.

6 Settings

This chapter explains how to set the camera-related functions.

7 Connecting to a Computer

This chapter explains how to connect the camera to a computer, and includes installation instructions and a general overview of the provided software.

8 Appendix

This chapter deals with troubleshooting and lists the optional accessories.

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Camera Features

In addition to basic picture-taking, this camera has a variety of shooting modes to suit different situations. This section describes how to make the most of the key features of your camera. For details of camera operations, refer to the pages for each function.

Easy-to-Navigate Capture and Playback Functions!

The user-friendly design of this camera enables easy operation with only a few buttons. Simply by choosing the appropriate icon, you can select the shooting mode (p.57) and choose the optimal settings for the situation, or the playback mode (p.93, p.105) and enjoy the various playback and editing functions. A guide on the display lets you check the functions available in each mode and how to use them.

- **A shooting mode guide is displayed in the Capture Mode Palette and a playback mode guide in the Playback Mode Palette (p.57, p.93).**
- **Use the Green Mode to take pictures easily using standard settings (p.61).**

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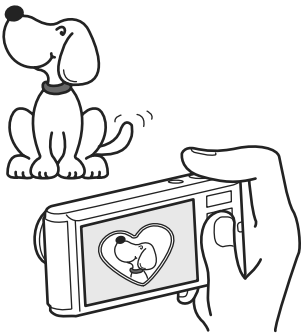
Perfect for Portrait Shots!

This camera comes with a “Face Detection” function that spots the faces in your shot and automatically adjusts the focus and exposure for the faces. It can detect up to 16 people per shot, so it will help you take perfect group shots too. It will automatically release the shutter when one or more of the subjects are smiling, so you can take many shots from which you can choose the best.

- **Face Detection function (p.59)**
- **Modes for taking stunning pictures of people (p.58)**

Add Fun Frames to Your Pictures!



When you take a picture with this camera, you can choose from our original fun frames to create attractive framed shots (p.66). You can also add frames to pictures you have taken. Adjust the position of the subject in the picture or reduce or enlarge the picture size to match the frame shape and size. Now you no longer have to worry about the subject not fitting into the frame (p.113).

- **For decorating your pictures with a frame**

Display Your Data in Calendar Format!

With this camera, you can display recorded images and movies by date in calendar format (p.92). This lets you quickly find the image or movie you want to play back.

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Advanced Movie Recording Functions

This camera has a “Movie SR” function to reduce camera shake during movie recording (p.86), and it enables you to record movies in 1280×720 pixel (16:9) HDTV format (*) (p.86).

* When connecting to and playing back images on AV equipment, the recorded data is output at normal screen resolution. To view movies in HDTV, transfer the data to a computer and play it back on the computer.

Use the camera to shoot fun-filled movies of your children or pets as a visual diary of their development (p.84).

A Multitude of Functions Inside the Camera for Enjoying Images Without a Computer!

This camera has a variety of functions to let you enjoy playing back and editing images without having to connect the camera to your computer. The camera is all you need to take and edit still pictures and movies (p.105).

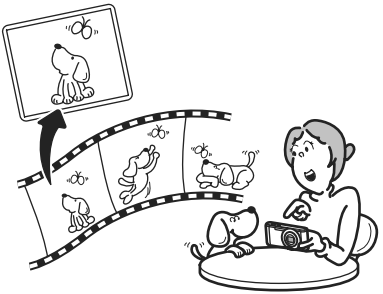

Image processing features such as Resize (p.105), Cropping (p.106), Digital Filter (p.110) and Red-eye Compensation (p.112) can be used.

You can divide a movie into two or more segments and select a frame from a movie to save it as a still picture (p.116).

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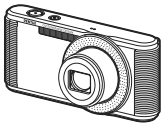
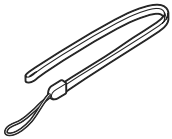
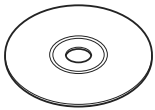
Checking the Contents of the Package



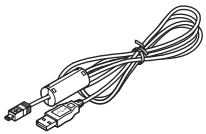
Camera
Optio LS465



Strap
O-ST116 (*)

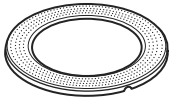


Software (CD-ROM)
S-SW127



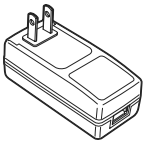
USB cable
I-USB116 (*)

Alternative Skins
(10 types)



Lens Ring O-LR2
(installed on camera)

Rechargeable lithium-ion
battery D-LI108 (*)



Power adapter
D-PA116 (*)

Quick Guide

Operating Manual
(this manual)

Items marked with an asterisk (*) are also available as optional accessories.
For other optional accessories, refer to “Optional Accessories” (p.160).

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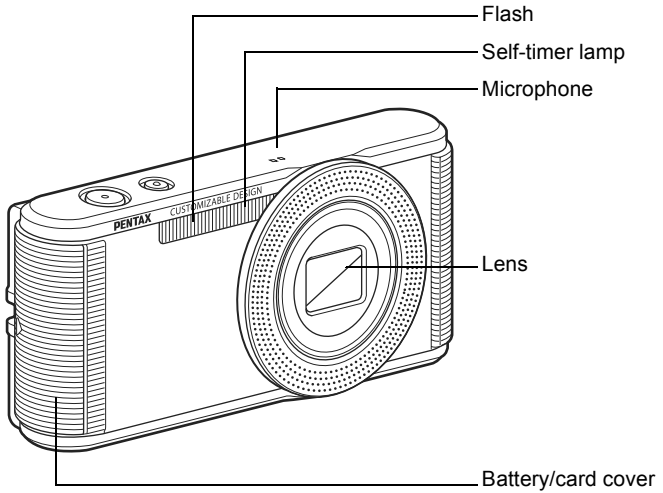
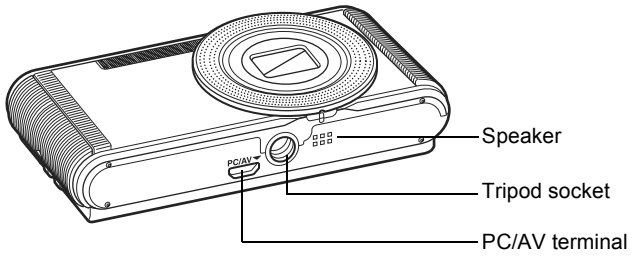
Names of Parts

Front





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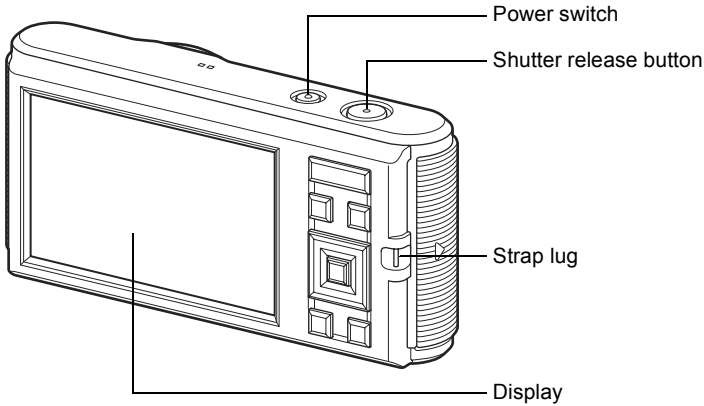
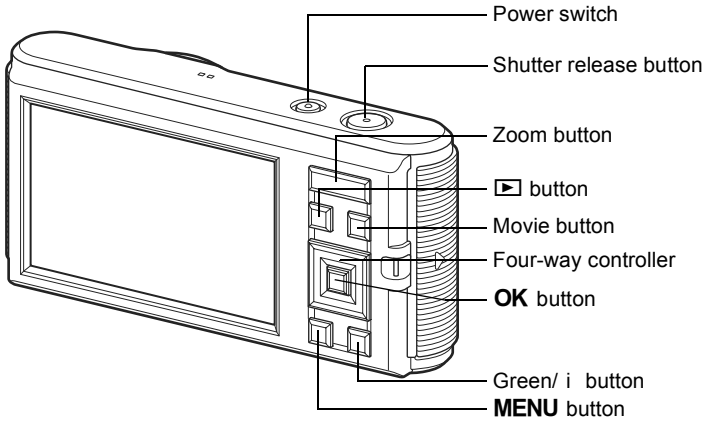
Back



Names of Operating Parts



memo Refer to “Understanding the Button Functions” (p.42 - p.45) for an explanation of the function of each button.

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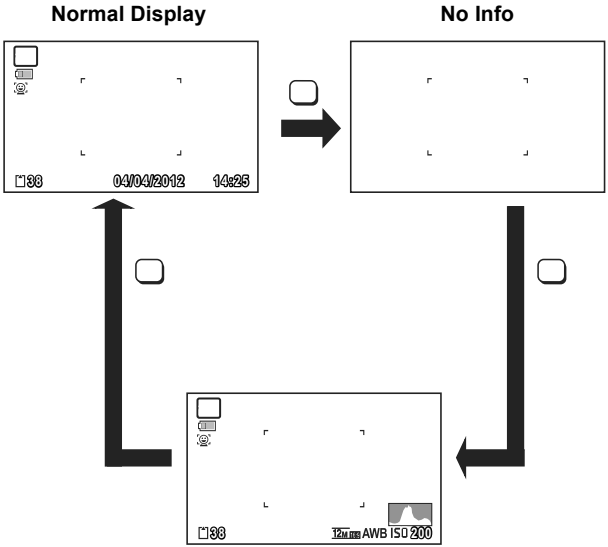
Monitor Indications

Display in A Mode

The display shows information such as the shooting conditions in capture mode. The display changes in the following sequence each time you press the **OK** button: “Normal Display”, “No Info” and “Histogram + Info”.



When the shooting mode is set to 9 (Green) mode, the monitor display is as shown on the right. You cannot change the information on the display by pressing the **OK** button (p.61).

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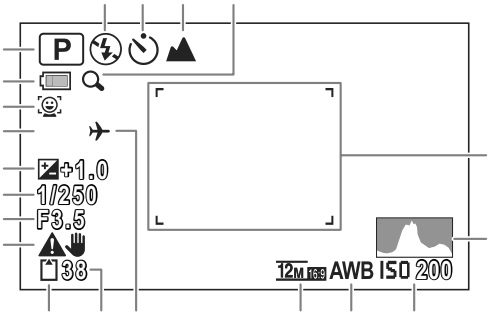
Still Picture Capture Mode

(All of the display items are displayed here for explanatory purposes.)

A1 to A14 and B1 appear when “Normal Display” is selected. All the icons appear when “Histogram + Info” is selected. Only B1 appears when “No Info” is selected.



A1 Shooting mode (p.57)
A2 Battery level indicator (p.33)
A3 Face Detection mode (p.59)
A4 Date Imprint setting (p.81)
A5 EV Compensation (p.76)
A6 Shutter speed
A7 Aperture
A8 Memory status (p.36)
A9 Remaining image storage capacity
A10 World Time setting (p.127)
A11 Digital zoom/ Intelligent Zoom icon (p.63)
A12 Focus Mode (p.73)
A13 Drive Mode (p.71)
A14 Flash Mode (p.70)
B1 Focus frame (p.54)
B2 Histogram (p.24)
B3 Sensitivity (p.78)
B4 White Balance (p.77)
B5 Recorded Pixels (p.75)
B6 Shake Reduction icon

* A3 varies depending on the [Face Detection] setting in the [A Rec. Mode] menu.

I	When [Face Detection] is set to [On]
J	When [Face Detection] is set to [Smile]

If set to [Off], nothing appears in A3.

* A6 and A7 appear only when the shutter release button is pressed halfway.

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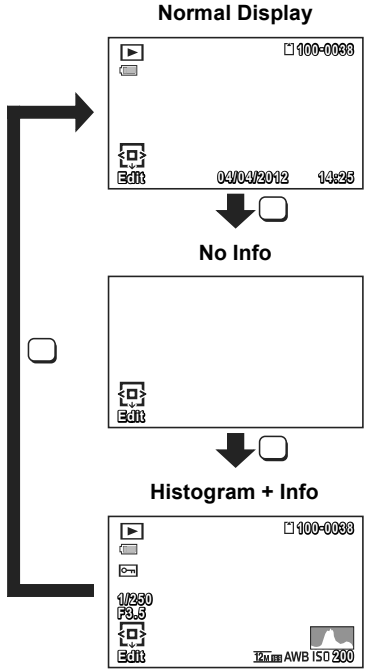
* When the shooting mode is AUTO PICT (Auto Picture) and if you press the shutter release button halfway, the automatically selected shooting mode appears in A1 even when “No Info” is selected (p.60).
* The current date and time (p.20) appear instead of B3 to B5 for two seconds when “Normal Display” is selected.
* Some indications may not appear depending on the shooting mode.

Display in ▶ Mode

The display shows the shooting information of the image in playback mode. The display changes in the following sequence each time you press the **OK** button: “Normal Display”, “No Info” and “Histogram + Info”.



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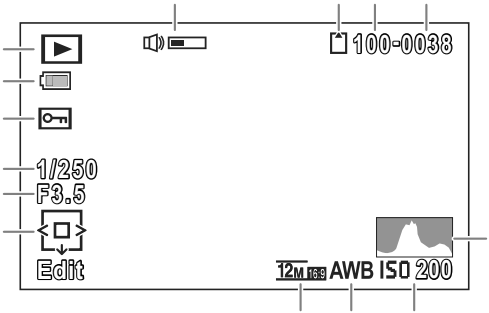
Playback Mode

(All of the display items are displayed here for explanatory purposes.)

The display shows information such as the shooting conditions. A1 to A8 appear when “Normal Display” or “Histogram + Info” is selected. B1 to B6 appear only when “Histogram + Info” is selected.



A1 Playback mode
- : Still picture (p.89)
- : Movie (p.90)

A2 Battery level indicator (p.33)
A3 Protect icon (p.100)
A4 Four-way controller guide
A5 File number
A6 Folder number (p.130)
A7 Memory status (p.36)
A8 Volume icon
B1 Histogram (p.24)
B2 Sensitivity (p.78)
B3 White Balance (p.77)
B4 Recorded Pixels (p.75)
B5 Aperture
B6 Shutter speed

* In “Normal Display”, A2 disappear if no operation is performed for two seconds.
* A8 appears only when the volume is being adjusted during playback of movies (p.90).
* A4 appears even when “No Info” is selected, but disappears if no operation is performed for two seconds. When no operation is performed for two seconds in “Normal Display” or “Histogram + Info”, only “Edit” disappears.
* Captured date and time (p.89) appear instead of B2 to B4 for two seconds when “Normal Display” is selected.

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Guide Indications

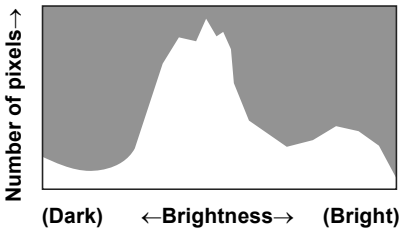
A guide indication for each available button/key operation appears as follows on the display during operation.

2	Four-way controller (2)
3	Four-way controller (3)
4	Four-way controller (4)
5	Four-way controller (5)
MENU	**MENU** button

Q	Zoom button
OK	**OK** button
SHUTTER	Shutter release button
, i	Green/ i button

Using the Histogram

A histogram shows the brightness distribution of an image. The horizontal axis represents brightness (dark at the left and bright at the right) and the vertical axis represents the number of pixels.
The shape of the histogram before and after shooting tells you whether the brightness and contrast are correct or not, and lets you decide if you need to adjust the exposure and take a picture again.

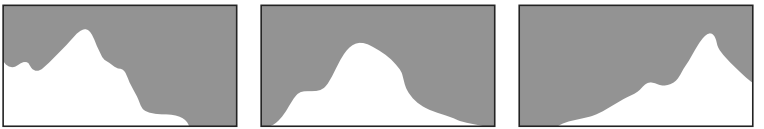


Compensating for Exposure (EV Compensation) 1 p.76

Understanding Brightness

If the brightness is correct, the graph peaks in the middle. If the image is underexposed, the peak is on the left side, and if it is overexposed, the peak is on the right side.

Dark image **Correct image** **Bright image**



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When the image is underexposed, the part to the left is cut off (dark portions) and when the image is overexposed, the part to the right is cut off (bright portions).

Understanding Contrast

The graph peaks gradually for images in which contrast is balanced. The graph peaks on both sides but sinks in the middle for images with a large difference in contrast and low amounts of mid-level brightness.

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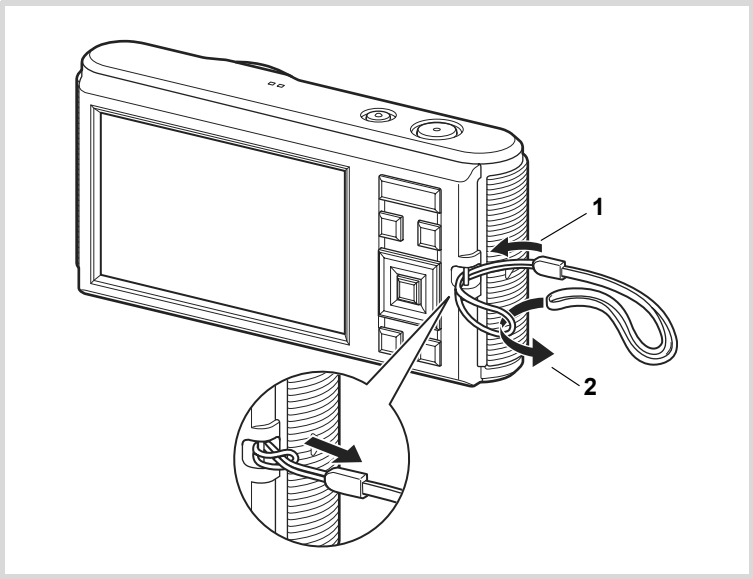
Attaching the Strap

Attach the strap supplied with the camera.



1 **Pass the narrow end of the strap through the strap lug.**

2 **Pass the other end of the strap through the loop and pull tight.**

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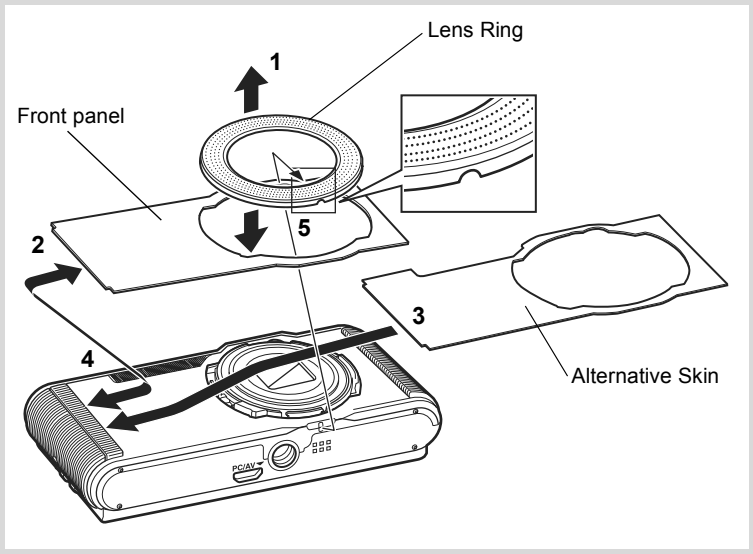
Dress-up the Camera

The Alternative Skins are supplied with the camera. You can choose a desired sheet and put it on the front of the camera to dress up.



1 Remove the lens ring.

Put the camera on a flat surface and detach the lens ring following the direction of arrow 1.

Caution Take care not to lose the lens ring.

2 Remove the front panel.

3 Put on an Alternative Skin.

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4 Put on the front panel.

5 Attach the lens ring.

Replace the lens ring removed in Step1.
Put the camera on a flat surface, fit the lens ring to the camera in its designated position, snap the lens ring along the groove.

Caution

- Be sure to attach the front panel when you use the camera.
- When attaching the lens ring, take care not to press against the monitor with your hand. This may cause the monitor to crack.

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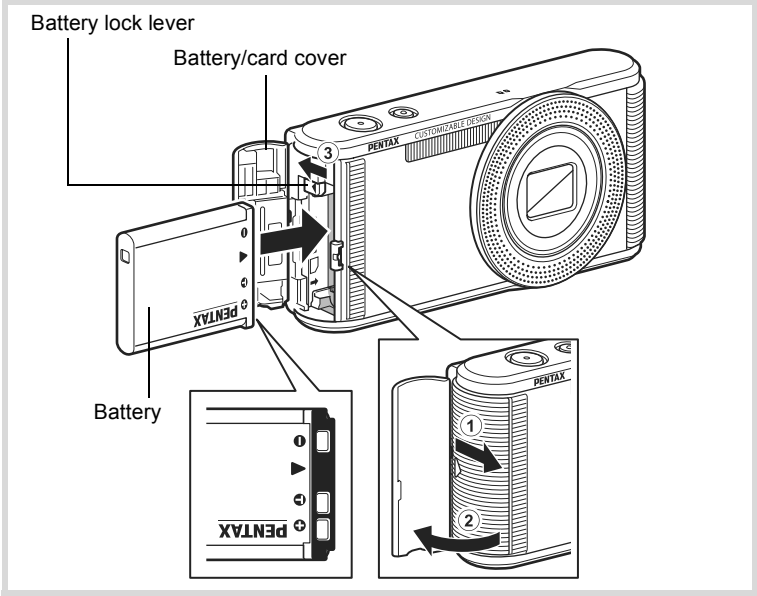
Installing the Battery

Use the rechargeable lithium-ion battery D-LI108 that is provided with the camera.



1 Make sure that the camera is turned off and open the battery/card cover.

Slide the battery/card cover in the direction indicated by the arrow ① and flip the cover open ②.

2 Push the battery lock lever in the direction of the arrow ③ and insert the battery so that the PENTAX logo is facing the lens side of the camera.

Match the marks on the battery to the marks inside the battery compartment and push the battery in until it is locked in place.

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3 Close the battery/card cover.

Slide the battery/card cover in the opposite direction indicated by ①. When you hear a click, the cover is securely closed.

Charge the battery before using it in the camera for the first time. (p.31)

To Remove the Battery

1 Make sure that the camera is turned off and open the battery/card cover.

2 Push the battery lock lever in the direction of the arrow ③.

The battery will be ejected. Take care not to drop the battery when removing it.

Caution

- This camera uses a rechargeable lithium-ion battery D-LI108. Use of any other type of battery may damage the camera and cause a malfunction.
- Insert the battery correctly. If the battery is incorrectly oriented, malfunction may result.
- When storing the battery for more than 6 months, charge the battery for 30 minutes and store the battery separately from the camera. Be sure to recharge the battery every 6 to 12 months. Storing the battery at or below room temperature is ideal. Avoid storing it at high temperature.
- The date and time may be returned to the default setting if the camera is left without the battery for a long time.
- Be careful as the camera or the battery may become hot when the camera is used continuously for a long period of time.

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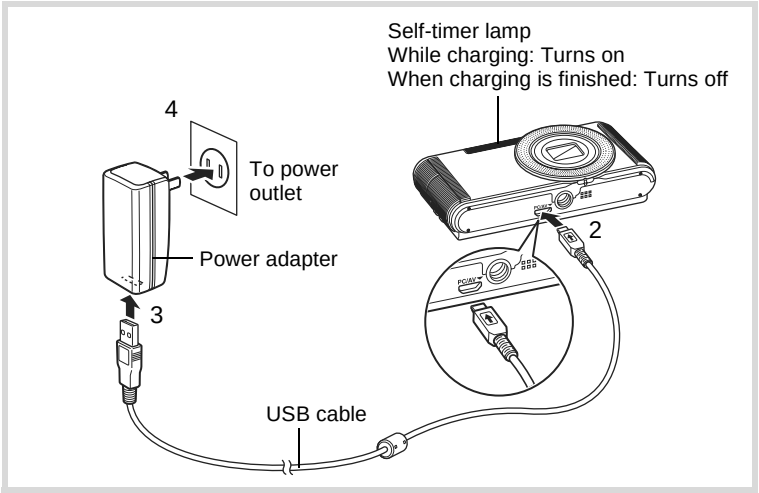
Charging the Battery

Charge the battery from a power outlet using the provided power adapter (D-PA116) and USB cable (I-USB116) before using it for the first time, after a long period of non-use, or when the [Battery depleted] message appears.



1 Make sure that the battery is installed in the camera.

2 Face the } mark on the USB cable towards the 4 mark on the camera, and connect the cable to the PC/AV terminal.

3 Connect the other end of the USB cable to the power adapter.

4 Plug the power adapter into the power outlet.
The self-timer lamp turns on while the battery is charging and turns off when charging is finished.

5 Unplug the power adapter from the power outlet, and disconnect the USB cable from your camera.

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Caution

- Do not use the power adapter D-PA116 to charge batteries other than the rechargeable lithium-ion battery D-LI108, as the adapter may overheat or be damaged.
- Make sure that the battery has been inserted correctly and the cable is connected properly if the self-timer lamp blinks.
- Replace the battery with a new one in the following cases:
  - If the battery starts to run down more quickly (the battery may have reached the end of its service life)
  - If the self-timer lamp does not light or blinks even after being charged (the battery may be faulty)

memo

- The time required to fully charge the battery is about 130 minutes (at room temperature of 25°C). However, the charging time may vary depending on the ambient temperature and charging conditions. The appropriate ambient temperature for charging the battery is 0°C to 40°C (32°F to 104°F).
- The rechargeable lithium-ion battery D-LI108 can also be charged using the optional battery charger D-BC108.
- The battery cannot be charged using a computer or similar devices. Do not attempt to charge the battery by connecting the USB cable to a computer.

- **Image Storage Capacity, Movie Recording Time, and Playback Time**

  (at 23°C with the display on and the battery fully charged)

Image Storage Capacity*1 (flash used for 50% of shots)	Movie Recording Time*2	Playback Time*2
Approx. 200 pictures	Approx. 70 min.	Approx. 130 min.

*1 Image Storage Capacity shows the approximate number of shots recorded during CIPA-compliant testing (with display on, flash used for 50% of the shots, and 23 degrees centigrade). Actual performance may vary according to operating conditions.

*2 According to the result of in-house testing.

memo

- In general, battery performance may temporarily deteriorate as the temperature decreases.
- Be sure to take a spare battery with you when traveling abroad or to a cold region, or if you intend to take a lot of pictures.

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• **Battery Level Indicator**

You can check the battery level by the indicator on the display.

Screen Display	Battery Status
(green)	Adequate power remains.
(green)	Battery is running low.
(yellow)	Battery is running very low.
(red)	Battery is exhausted.
[Battery depleted]	The camera will turn off after this message appears.

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Installing an SD Memory Card

This camera uses a commercially available SD Memory Card, SDHC Memory Card, or SDXC Memory Card. Captured images are saved on the SD Memory Card when a card is inserted in the camera. They are saved in the built-in memory when a card is not inserted (p.36).

Caution **Be sure to use this camera to format (initialize) an SD Memory Card that is unused or has been used on other cameras or digital devices. Refer to "Formatting the Memory" (p.123) for instructions on formatting.**

memo
- The number of still pictures that can be stored and movie recording time vary depending on the capacity of the SD Memory Card and the selected number of recorded pixels.
  - Choose the appropriate number of recorded pixels for still pictures on the [A Rec. Mode] menu. Refer to "Selecting the Number of Recorded Pixels" (p.75) for details.
  - Choose the appropriate number of recorded pixels for movies on the [Movie] menu. Refer to "Selecting the Recorded Pixels for Movies" (p.86) for details.
  - For an approximate guide to the number of still pictures or the length of recorded movies that can be saved on an SD Memory Card or in the built-in memory, see "Main Specifications" (p.162).
- The self-timer lamp blinks while the SD Memory Card is being accessed (data is being recorded or read).

Backing Up Data

The camera may not be able to access data in the SD Memory Card or built-in memory in the case of a malfunction. Use a computer or other device to back up important data in another location.

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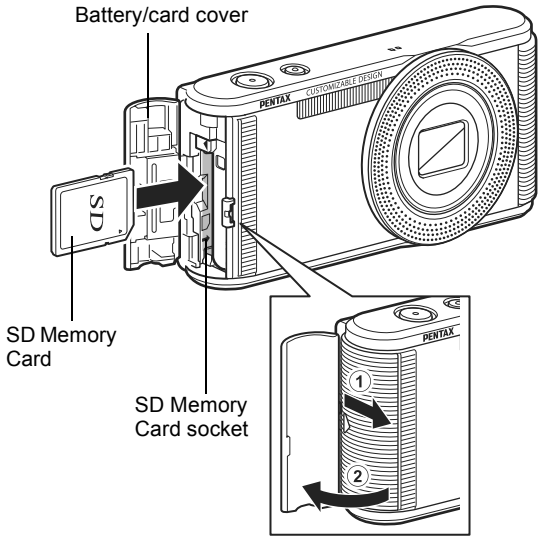

1 Make sure that the camera is turned off and open the battery/card cover.

Slide the battery/card cover in the direction indicated by the arrow ① and flip the cover open ②.

2 Insert the SD Memory Card into the SD Memory Card socket so that the label is facing the lens side of the camera.

Push the card in until it clicks. Data may not be recorded correctly if the card is not inserted all the way.

To remove the SD Memory Card, push it in once and then pull it out.

3 Close the battery/card cover.

Slide the battery/card cover in the opposite direction indicated by ①. When you hear a click, the cover is securely closed.

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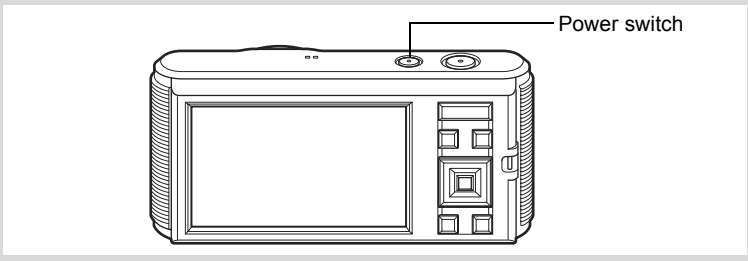
Turning the Camera On and Off



1 Press the power switch.

The camera turns on and the display turns on.
When you turn the camera on, the lens cover opens and the lens extends.
If the [Language/言語] screen or [Date Adjustment] screen appears when you turn the camera on, follow the procedure on p.37 to set the display language and/or current date and time.

2 Press the power switch again.

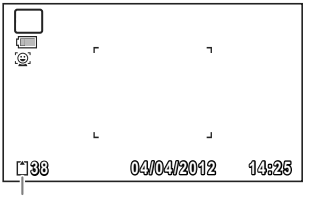
The display turns off, the lens closes, and the camera turns off.

Taking Still Pictures 1 p.54

Checking the SD Memory Card

The SD Memory Card is checked when the camera turns on and the memory status is displayed.

	The SD Memory Card is inserted. Images will be saved on the SD Memory Card.
	The SD Memory Card is not inserted. Images will be saved in the built-in memory.
	The write-protect switch on the SD Memory Card is in the LOCK position (p.6). Images cannot be recorded.



Memory status

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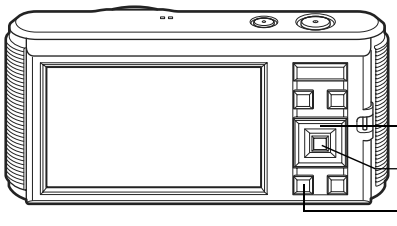
Initial Settings

The [Language/言語] screen appears when the camera is turned on for the first time. Perform the operations in “Setting the Display Language” below to set the language, and in “Setting the Date and Time” (p.40) to set the current date and time.

The language, date, and time can be changed later. Refer to the pages below for instructions.
- To change the language, follow the steps in “Changing the Display Language” (1 p.129).
- To change the date and time, follow the steps in “Changing the Date and Time” (1 p.125).

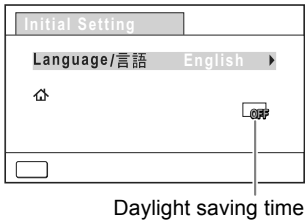
Setting the Display Language



1 Use the four-way controller (2 3 4 5) to choose the desired display language.

2 Press the OK button.

The [Initial Setting] screen appears in the selected language. If the desired settings for [Hometown] and [DST] (Daylight Saving Time) appear, proceed to Step 9.
Proceed to Step 3 if the desired settings do not appear.



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If you accidentally select the wrong language and proceed to the next procedure, perform the following operation to set the desired language.

● **When the Wrong Language Has Been Inadvertently Selected**

1 **Press the four-way controller (** 5 **).**

2 **Use the four-way controller (** 2 3 4 5 **) to select the desired language and press the OK button.**
The [Initial Setting] screen appears in the selected language.

● **When the Screen After Step 2 Appears in the Wrong Language**

1 **Press the MENU button.**
The setting screen is canceled and the camera is set to still picture capture mode.

2 **Press the MENU button.**
The [A Rec. Mode] menu appears.

3 **Press the four-way controller (** 5 **) twice.**
The [🔧 Setting] menu appears.

4 **Use the four-way controller (** 2 3 **) to select [Language/言語].**

5 **Press the four-way controller (** 5 **).**
The [Language/言語] screen appears.

6 **Use the four-way controller (** 2 3 4 5 **) to select the desired language.**

7 **Press the OK button.**
The [🔧 Setting] menu appears in the selected language.

To reset the Hometown city, date, and time, refer to the pages below for instructions.

- To change the Hometown city, follow the steps in “Setting the World Time” (1 p.127).
- To change the date and time, follow the steps in “Changing the Date and Time” (1 p.125).

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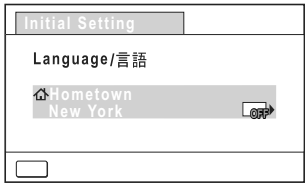
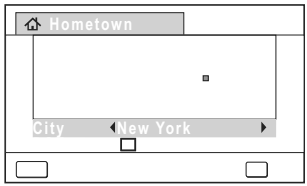
3 **Press the four-way controller (3).**
The frame moves to [⌂ Hometown].

4 **Press the four-way controller (5).**
The [⌂ Hometown] screen appears.



5 **Use the four-way controller (4 5) to choose a city.**



6 **Press the four-way controller (3).**
The frame moves to [DST] (Daylight Saving Time).

7 **Use the four-way controller (4 5) to select O (On) or P (Off).**

8 **Press the OK button.**
The [Initial Setting] screen reappears.

9 **Press the four-way controller (3) to select [Settings complete].**

10 **Press the OK button.**
The [Date Adjustment] screen appears. Next, set the date and time.

The video output format (NTSC/PAL) is set to the format of the city selected in [Hometown] on the [Initial Setting] screen. Refer to “List of World Time Cities” (p.159) for the video output format of each city that will be set at the time of initial setting, and “Changing the Video Output Format” (p.131) for changing the video output format.

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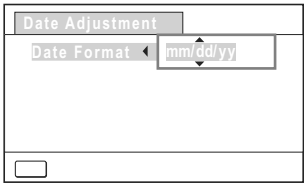
Setting the Date and Time

Set the current date and time and the display style.

1 **Press the four-way controller (5).**
The frame moves to [mm/dd/yy].

2 **Use the four-way controller (2 3) to choose the date format.**
Choose from [mm/dd/yy], [dd/mm/yy] or [yy/mm/dd].



3 **Press the four-way controller (5).**
The frame moves to [24h].

4 **Use the four-way controller (2 3) to select [24h] (24-hour display) or [12h] (12-hour display).**

5 **Press the four-way controller (5).**
The frame returns to [Date Format].

6 **Press the four-way controller (3).**
The frame moves to [Date].

7 **Press the four-way controller (5).**
The frame moves to the month.

8 **Use the four-way controller (2 3) to change the month.**
Change the day and year in the same manner.
Next, change the time.
If you selected [12h] in Step 4, the camera automatically switches the display between am and pm corresponding to the time.

9 **Press the four-way controller (3) to select [Settings complete].**

10 **Press the OK button.**
This confirms the date and time.

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If you press the **OK** button in Step 10, the camera clock is reset to 0 seconds. To set the exact time, press the **OK** button when the time signal (on the TV, radio, etc.) reaches 0 seconds.

When the [Initial Setting] or [Date Adjustment] screen is displayed, you can cancel the settings made up to that point and switch to the capture mode by pressing the **MENU** button. In this case, the [Initial Setting] screen will appear again the next time you turn the camera on.

The language, date, time, Hometown city, and DST setting can be changed. Refer to the pages below for instructions.

- To change the language, follow the steps in “Changing the Display Language” (1 p.129).
- To change the date and time, follow the steps in “Changing the Date and Time” (1 p.125).
- To change the Hometown city or DST setting, follow the steps in “Setting the World Time” (1 p.127).

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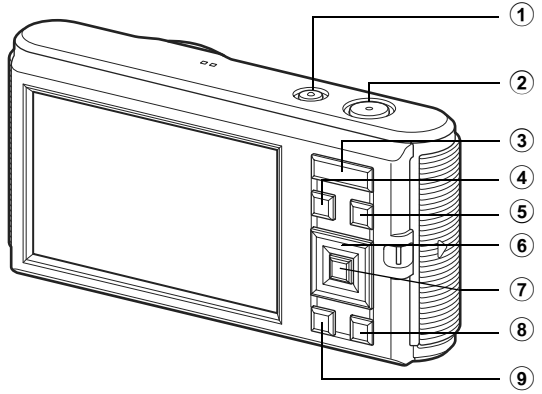
A Mode



① **Power switch**
Turns the camera on and off (p.36).

② **Shutter release button**
Focuses the camera on the subject when pressed halfway in still picture capture mode (except in **PF** and ▲ modes).
Takes a still picture when pressed down fully (p.55).

③ **Zoom button**
Changes the area captured by the camera (p.63).
Switches to the [A Rec. Mode] menu, [Movie] menu, or [Setting] menu when a menu screen is displayed.

④ **▶ button**
Switches to the ▶ mode (p.46).

⑤ **Movie button**
Starts and stops movie recording (p.84).

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⑥ **Four-way controller**

2 Changes the drive mode (p.71).
3 Displays the Capture Mode Palette (p.57).
4 Changes the flash mode (p.70).
5 Changes the focus mode (p.73).

⑦ **OK button**

Changes the information on the display (p.20).

⑧ **Green button**

Switches to the 9 (Green) mode (p.61).
Calls up the assigned function (p.82).

⑨ **MENU button**

Displays the [A Rec. Mode] menu (p.47).

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⑤ Four-way controller

2	Plays back or pauses a movie (p.90).
3	Displays the Playback Mode Palette (p.93). Stops a movie during playback (p.90).
4 5	Displays the previous or next image during single-image display (p.89). Fast-forwards, fast-reverses, frame forwards, frame reverses, plays back a movie in forward and reverse during movie playback (p.90).
2 3 4 5	Selects an image during six-/twelve-image display, a folder during folder display, and a date during calendar display (p.91, p.92). Moves the display area during zoom display (p.97). Moves the image when using the Frame Composite function (p.113).

⑥ OK button

Changes the information on the display (p.22).
Returns to single-image display during six-/twelve-image display or zoom display (p.91, p.97).
Changes to twelve-image display of the selected folder during folder display (p.92).
Changes to single-image display of the selected date during calendar display (p.92).

⑦ Green/ i button

Switches from single-image display to the Delete screen (p.98).
Switches from six-/twelve-image display to the Select & Delete screen (p.98).
Switches from folder display to the calendar display screen (p.92).
Switches from calendar display to the folder display screen (p.92).

⑧ MENU button

Displays the [🔧 Setting] menu during single-image display (p.47).
Returns to single-image display during Playback Mode Palette display (p.93).
Returns to single-image display during six-/twelve-image display or zoom display (p.91).
Changes to twelve-image display during folder or calendar display (p.92).

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Switching Between A Mode and ▶ Mode

In this manual, the capture mode, such as for taking still pictures, is referred to as " A mode" (the capture mode). The playback mode, such as for viewing the captured images on the display, is referred to as "▶ mode" (the playback mode). In ▶ mode, you can perform simple editing operations on the captured images.
Follow the procedure below to switch between A mode and ▶ mode.

To Switch from A Mode to ▶ Mode

1 **Press the ▶ button.**
The camera switches to ▶ mode.

To Switch from ▶ Mode to A Mode

1 **Press the ▶ button or the shutter release button halfway.**
The camera switches to A mode.

Displaying the data stored in the built-in memory
When an SD Memory Card is inserted in the camera, images and movies stored on the SD Memory Card are displayed.
To display images and movies stored in the built-in memory, turn the camera off first, and then remove the SD Memory Card before proceeding.

Caution Make sure that the camera is turned off before inserting or removing the SD Memory Card.

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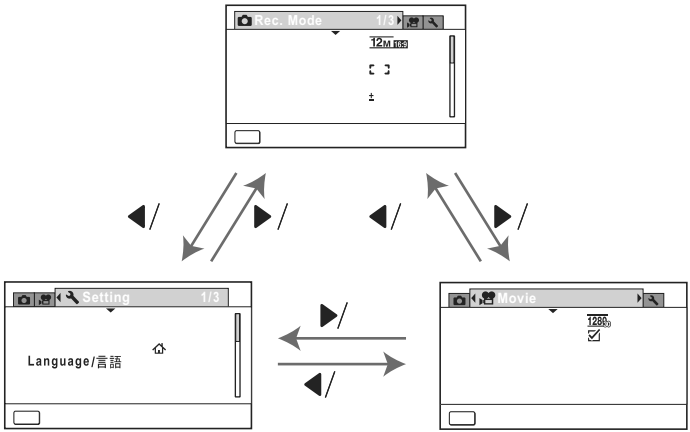
Setting the Camera Functions

To change the camera settings, press the **MENU** button to display the menu screens. Functions for playing back and editing images are called up from the Playback Mode Palette (p.93).

Operating the Menus

There are three menus available with the camera: [A Rec. Mode], [Movie], and [Setting].
Press the **MENU** button in A mode to display the [A Rec. Mode] menu.
Press the **MENU** button in ▶ mode to display the [Setting] menu.
Use the four-way controller (4 5) or zoom button to switch between the menus.



memo Available button operations appear on the display during menu operation (p.24).

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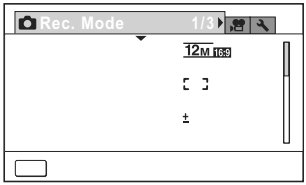
Ex.) To set [Focusing Area] on the [A Rec. Mode] menu

1 Press the MENU button in A mode.

The [A Rec. Mode] menu appears.

2 Press the four-way controller (3).

The frame moves to [Recorded Pixels].

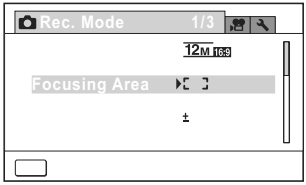


3 Press the four-way controller (3) twice.

The frame moves to [Focusing Area].

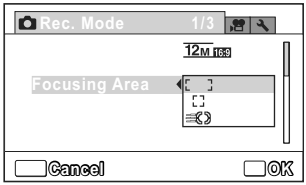
4 Press the four-way controller (5).

A pull-down menu appears only with the items that are available with the current camera settings.



5 Use the four-way controller (2 3) to change the setting.

The focusing area changes each time the four-way controller (2 3) is pressed.



6 Press the OK button or the four-way controller (4).

The setting is saved and then the camera is ready for setting the other functions.

To exit the setting operation, press the MENU button.

To perform another operation, refer to the following alternate Step 6 options.

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To Save the Setting and Start Taking Pictures

6 **Press the shutter release button halfway.**

The setting is saved and the camera returns to capture status.
When the shutter release button is pressed fully, the picture is taken.

memo When the [🔧 Setting] menu is displayed from ▶ mode, you can switch to A mode by pressing the ▶ button.

To Save the Setting and Start Playback of Images

6 **Press the ▶ button.**

When the [A Rec. Mode] menu is displayed from A mode, the setting is saved and the camera returns to playback status.

To Cancel the Changes and Continue with Menu Operations

6 **Press the MENU button.**

The changes are canceled and the screen shown in Step 3 reappears.

memo The **MENU** button function varies depending on the screen. Refer to the guide indications.

MENU Exit	Exits the menu and returns to the original screen.
MENU ↩	Returns to the previous screen with the current setting.
MENU Cancel	Cancels the current selection, exits the menu and returns to the previous screen.

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Menu List

This displays the items that can be set from the menus and provides descriptions of each item. See the list of default settings in the Appendix "Default Settings" (p.154) to check whether the settings are saved when the camera is turned off and whether the settings return to the defaults when the camera is reset.

[A Rec. Mode] Menu

Item	Description	Page
Recorded Pixels	For choosing the number of recorded pixels for still pictures	p.75
White Balance	For adjusting the color balance according to the light conditions	p.77
Focusing Area	For changing the autofocus area	p.74
Sensitivity	For setting the sensitivity	p.78
EV Compensation	For adjusting the overall brightness of the picture	p.76
Face Detection	For spotting the faces in your shot and automatically adjusting the focus and exposure for the faces	p.79
Digital Zoom	For choosing whether or not to use the Digital Zoom function	p.64
Memory	For choosing whether to save the set values of the shooting function or return to the defaults when the camera is turned off	p.87
Green Button	For assigning a function to the Green button so that you can go straight to it in A mode	p.82
Sharpness	For choosing sharp or soft outlines	p.80
Saturation	For setting the color saturation	p.81
Contrast	For setting the image contrast level	p.81
Date Imprint	For choosing whether to imprint the date and/or time when taking still pictures	p.81

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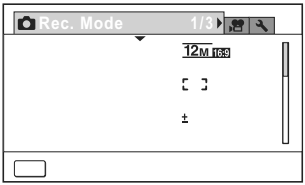
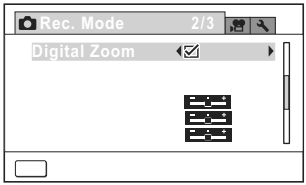
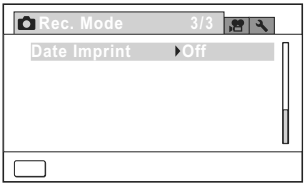
● **[A Rec. Mode] Menu 1**



● **[A Rec. Mode] Menu 2**



● **[A Rec. Mode] Menu 3**

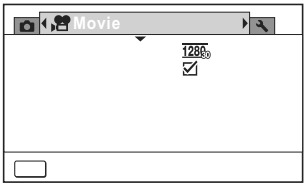


memo

- Use the 9 (Green) mode to enjoy easy picture-taking using standard settings, regardless of the settings in the [A Rec. Mode] menu (p.61).
- Assigning a frequently used function to the Green button enables you to go straight to the desired function (p.83).

[Movie] Menu

Item	Description	Page
Recorded Pixels	For choosing the number of recorded pixels for movies	p.86
Movie SR	For choosing whether or not to use the Movie Shake Reduction function	p.86



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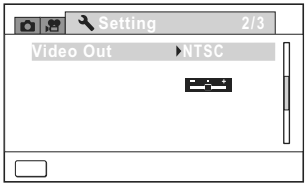
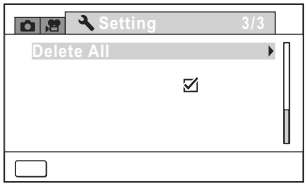
● [Setting] Menu 1

● [Setting] Menu 2



● [Setting] Menu 3



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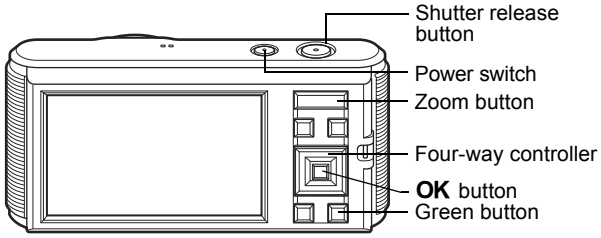


Taking Pictures

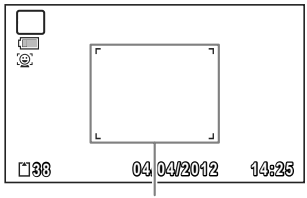
This camera features a wide range of shooting modes and functions to suit almost any subject or scene. This chapter describes how to take pictures with the most commonly used standard settings (the factory default settings).

1 Press the power switch.

The camera turns on in “still picture capture mode”.

2 Check the subject and shooting information on the display.

The focus frame in the middle of the display indicates the zone of automatic focusing.

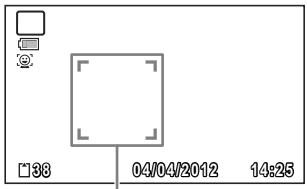


Focus frame

When the camera detects a person’s face, the Face Detection function is activated and the face detection frame appears (p.59).

You can change the captured area by pressing the zoom button (p.63).

Right (**T**) Enlarges the subject.
Left (**W**) Widens the area that is captured by the camera.



Face detection frame

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Using the Shutter Release Button

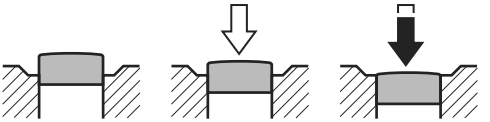
The shutter release button works in a two-step action as follows.

Press halfway

This refers to pressing the shutter release button gently to the first position. This locks the focus setting and the exposure. The green focus frame is displayed on the monitor when the shutter release button is pressed halfway and the subject is in focus. If the subject is out of focus, the white focus frame appears.

Press fully

This refers to pressing the shutter release button all the way down to the fully depressed position. This takes a picture.



Not pressed | Pressed halfway (first position) | Pressed fully (second position)

Poor focusing conditions

The camera may not be able to focus under the following conditions. In these cases, lock the focus on an object the same distance away as the subject (by pressing and holding the shutter release button halfway), then aim the camera at your subject and press the shutter release button fully.

- Objects that lack contrast such as a blue sky or white wall
- Dark places or objects, or conditions that prevent light from being reflected back
- Intricate patterns
- Fast moving objects
- When there is an object in the foreground and an object in the background in the captured area
- Strongly reflected light or strong backlighting (bright background)

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Instant Review

Immediately after capturing an image, it appears on the screen display (Instant Review).

Setting the Shooting Mode

This camera has a variety of shooting modes that let you take pictures in different situations simply by choosing the appropriate mode for the particular situation from the Capture Mode Palette.

1 **Press the four-way controller (3) in A mode.**

The Capture Mode Palette appears.

2 **Use the four-way controller (2 3 4 5) to choose a shooting mode.**

When an icon is selected in the Capture Mode Palette, the guide for the selected shooting mode appears.

3 **Press the OK button.**

The shooting mode is fixed and the camera returns to capture status.

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There are 23 shooting modes which can be selected from the Capture Mode Palette.

Shooting Mode		Description
AUTO PICT	Auto Picture	Automatically selects the best capture mode. (1 p.60)
P	Program	Used for basic shooting. Various functions can also be set with this mode. (1 p.61)
	Blue Sky	Emphasizes saturation of the sky to produce a bright image.
	Landscape	For capturing landscape views. Enhances colors of sky and foliage.
	Flower	For images of flowers. The outline of the flower is softened.
	Sunset	For images of sunsets and warm lighting.
	Night Scene	For night time images. Use of a tripod or other support is suggested.
	Night Scene Portrait	For images of people at night. Use of a tripod or other support is advised. When the flash mode is set to ϟA (Auto) and the camera detects a person's face, the flash mode automatically changes to ϟ (Flash On + Red-eye).
	Portrait	For capturing portraits. Reproduces a healthy and bright skin tone.
	Natural Skin Tone	For images of people. Enhances skin tones while smoothing blemishes.
	Food	For images of food and prepared dishes. Enhances saturation and contrast.
	Digital SR	Higher sensitivity reduces blur. The sensitivity is automatically set to [Auto] and the number of recorded pixels is fixed at 5M for the 4:3 aspect ratio and 4M 16:9 for the 16:9 aspect ratio.
R	Kids	For capturing moving kids. Reproduces a healthy and bright skin tone.
	Pet	For capturing moving pets. Select the color according to the pet's coat. (1 p.65)
	Sport	For a fast moving subject. Tracks the subject until the picture is taken.
Q	Surf & Snow	For bright images such as sand or snow. Accurately meters for bright scenes.
S	Fireworks	For capturing fireworks. Use of a tripod or other support is suggested. The shutter speed is fixed at 4 seconds and the sensitivity is fixed at the minimum value.
	Frame Composite	For capturing images with a frame. (1 p.66)

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Shooting Mode		Description
	Party	For capturing images at parties or in dim light. Increases ISO and clarity.
U	Candlelight	For capturing scenes in candlelight.
c	Text	Captures text in an easy to read manner. Text contrast can be adjusted. (1 p.67)
	Miniature Filter	For capturing an image with the subject looks like miniature objects. (1 p.68)
HDR	HDR Filter	For capturing an image with HDR-like effect. (1 p.68)

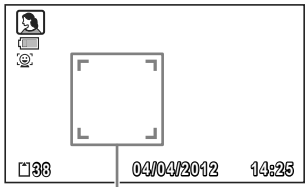
* In addition to the modes listed above, 9 (Green) mode (p.61) is also available.

memo

- In shooting modes other than P, , , , , and **HDR**, saturation, contrast, sharpness, white balance, etc. are set to the optimal settings for the selected mode.
- In R, or mode, the camera tracks the subject and continues to focus on it. When [Focusing Area] (p.74) is set to J (Multiple) or K (Spot), focus can be locked by pressing the shutter release button halfway.
- Some functions may not be available or may not work fully depending on the selected shooting mode. For details, refer to “Functions Available for Each Shooting Mode” (p.148).

Using the Face Detection Function

With this camera, the Face Detection function is available with all shooting modes.
When the camera detects a person’s face in the image, the Face Detection function displays a yellow face detection frame around the face on the screen display, sets the focus (Face Detection AF) and compensates the exposure (Face Detection AE).
If the subject in the face detection frame moves, the frame also moves and changes its own size as it tracks the face.



Face detection frame

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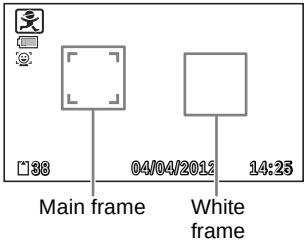
The Face Detection function can detect up to 16 people's faces. If it detects multiple faces, the camera displays a yellow frame over the main face and white frame(s) over the other face(s). The default setting is [On]. You can switch to the Smile Capture function that automatically releases the shutter when the subject smiles. Refer to "Switching the Face Detection Function" (p.79) for details.

When the multiple faces are detected



Taking Pictures Automatically (Auto Picture Mode)

1 Use the four-way controller (2345) to select b (Auto Picture) from the Capture Mode Palette.

2 Press the 4 button.

The b mode is selected and the camera returns to capture status. When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.59).

3 Press the shutter release button halfway.

The selected shooting mode is displayed on the top left of the screen.

Standard	Night Scene	Landscape
Portrait	Night Scene Portrait	Flower
Candlelight	Blue Sky	Portrait×Blue Sky
Portrait×Backlight	Sunset	Portrait×Sunset
Group Photograph	Text	

The focus frame on the display turns green when the camera focuses on the subject at the correct distance.

4 Press the shutter release button fully.

The picture is taken.

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The following restrictions apply in AUTO PICT mode:

- [Face Detection] cannot be set to [Off].
- The focusing area setting is fixed at J (Multiple).
- The (Flower) mode cannot be selected when using digital zoom or Intelligent Zoom.
- If the (Night Scene Portrait) mode is selected when the flash mode is set to ⚡A (Auto), the flash mode automatically changes to ⚡ (Flash On + Red-eye) when the camera detects a face and determines that the flash is needed.

Taking Pictures in the Custom Settings (Program Mode)

1 Use the four-way controller (2 3 4 5) to select P (Program) from the Capture Mode Palette.

2 Press the OK button.

The P mode is selected and the camera returns to capture status. When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.59).

3 Change the settings as needed.

Refer to "Setting the Shooting Functions" (p.70 - p.83) for details on how to set the functions.

4 Press the shutter release button halfway.

The focus frame on the display turns green when the camera focuses on the subject at the correct distance.

5 Press the shutter release button fully.

The picture is taken.

Taking Pictures in Basic Mode (Green Mode)

In 9 (Green) mode, you can enjoy easy picture-taking using standard settings, regardless of the settings in the [A Rec. Mode] menu. The 9 mode settings are as shown below.

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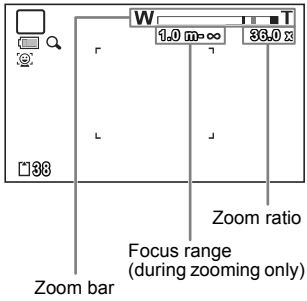
Using the Zoom

You can use the zoom to change the captured area.

1 Press the zoom button in A mode.

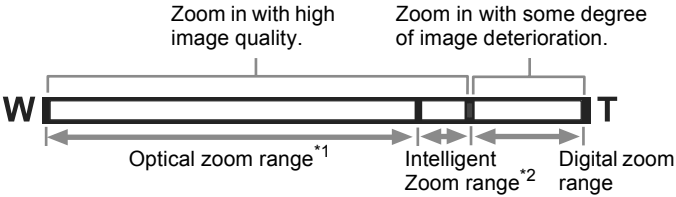


Right (**T**) Tele Enlarges the subject.

Left (**W**) Wide Widens the area that is captured by the camera.

When you continue to press the button towards the right (**T**), the camera automatically switches from optical zoom to Intelligent Zoom and stops at the point where the zoom switches to digital zoom.
Once the button is released and pressed again, the camera switches to digital zoom.

The zoom bar is displayed as follows.



*1 You can zoom in to a maximum of 5× optically.

*2 The Intelligent Zoom range differs depending on the number of recorded pixels. See the following table.

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Recorded pixels and the maximum zoom ratio

Recorded Pixels	Intelligent Zoom	Digital zoom
m	Not available (5× optical zoom only)	Equivalent to approx. 36.0×
n /o	Not available (5× optical zoom only)	
6	Approx. 7.5×	
h	Approx. 12.0×	
m	Approx. 36.0× (Same as digital zoom)	

memo

- It is recommended to use a tripod or other support to prevent camera shake when taking pictures at high zoom.
- Pictures taken in the digital zoom range appear grainier than pictures taken in the optical zoom range.
- Intelligent Zoom is not available under the following conditions:
  - When the number of recorded pixels is set to m /n /o (5× optical zoom is available)
  - In c (Digital SR) mode
  - When the sensitivity is set to 3200 or 6400
- The image enlarged using Intelligent Zoom may appear rough on the display. This does not affect the quality of the recorded image.
- Only digital zoom is available while recording a movie.
- The focus range is not displayed when the focus mode is set to 3 /s or the shooting mode is set to S (Fireworks), or while recording a movie.

To Set the Digital Zoom

The Digital Zoom is set to O (On) in the default setting. To take pictures using only optical zoom and Intelligent Zoom, set the Digital Zoom to P (Off).

1 Press the 3 button in A mode.
The [A Rec. Mode] menu appears.

2 Use the four-way controller (23) to select [Digital Zoom].

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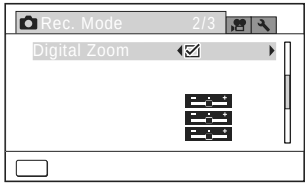
3 Use the four-way controller (45) to select O or P.

O Uses Digital Zoom

P Uses only optical zoom and Intelligent Zoom



4 Press the 3 button.

The camera returns to capture status.

Saving the Digital Zoom Function setting 1 p.87

Taking Pictures of Your Pet (Pet Mode)

Use the H (Pet) mode to keep your moving pet in focus and capture the color of your pet's coat when you take a picture. Choose the appropriate icon depending on what color your pet is (closer to black or white or in between).

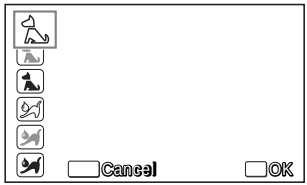
1 Use the four-way controller (2345) to select H (Pet) from the Capture Mode Palette.

2 Press the 4 button.

The H mode selection screen appears.

3 Use the four-way controller (23) to select H , K , K , L , M or M .

There are two types of icons: a dog and cat icon. Your choice of dog or cat icon does not affect the resulting picture, so you can choose whichever you prefer. Choose an icon (white, gray, or black) whose tone best matches your pet's coat or fur.



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4 Press the 4 button.

The selected icon appears and the camera returns to capture status. The camera tracks the subject and continues to focus on it.
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.59).

5 Press the shutter release button fully.

The picture is taken.

Framing Your Pictures (Frame Composite Mode)

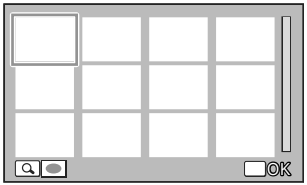
In N (Frame Composite) mode, you can take pictures using the frames stored in the camera.

1 Use the four-way controller (2345) to select N (Frame Composite) from the Capture Mode Palette.

2 Press the 4 button.

The 12-frame display of the frame selection screen appears.

3 Use the four-way controller (2345) to choose the frame you want to use.



4 Press the zoom button towards the right (T).

The selected frame appears in single-image display.
You can choose another frame using either of the following operations.

Four-way controller (45)	Press to choose a different frame.
Zoom button towards the left (W)	Returns to the 12-frame display of the frame selection screen, and then lets you choose a different frame in the same way as Step 3.

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5 Press the OK button.

The framed image appears on the display.
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.59).

6 Press the shutter release button halfway.

The focus frame on the display turns green when the camera focuses on the subject at the correct distance.

7 Press the shutter release button fully.

The picture is taken.

memo

- The number of recorded pixels is fixed at 3M for the 4:3 aspect ratio and 2M 16:9 for the 16:9 aspect ratio.
- Frames cannot be added to movies.
- By default, three frames are built-in to the camera. These frames are not deleted even if the built-in memory is formatted.
- The CD-ROM supplied with the camera contains optional frames. To save the frames into the built-in memory, copy the files from the CD-ROM (p.115).

Adding a Frame to a captured image 1 p.113

Taking Pictures of Text (Text Mode)

The c (Text) mode allows you to take clear pictures of written text. This is convenient for capturing a digital copy of an important document or enhancing the legibility of small print.

c	Color	Maintains the original color of the text.
d	Neg. Color	Reverses the color of the text.
c	B & W	Turns the color of the text into black and white.
d	Neg. B & W	Turns the color of the text into reversed black and white.

1 Use the four-way controller (2 3 4 5) to select c (Text) from the Capture Mode Palette.

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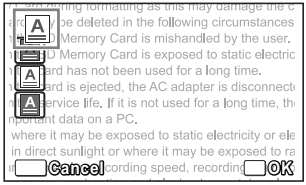
2 **Press the OK button.**

The c mode selection screen appears.


ring formatting as this may damage the c
be deleted in the following circumstances
Memory Card is mishandled by the user.
D Memory Card is exposed to static electric
rd has not been used for a long time.
rd is ejected, the AC adapter is disconnect
ervice life. If it is not used for a long time, th
portant data on a PC.
where it may be exposed to static electricity or ele
in direct sunlight or where it may be exposed to ra
cording speed, recordin
Cancel
OK

3 **Use the four-way controller (2 3) to select c, d, c or d.**

4 **Press the OK button.**

The selected icon appears and the camera returns to capture status. If the camera detects a person's face when c (Color) is selected, the Face Detection function is activated and the face detection frame appears (p.59).

5 **Press the shutter release button halfway.**

The focus frame on the display turns green when the camera focuses on the subject at the correct distance.

6 **Press the shutter release button fully.**

The picture is taken.

Taking Pictures Using the Miniature/HDR Filter

In (Miniature)/**HDR** (HDR) Filter mode, you can take impressive pictures using the filter.

Miniature Filter	For capturing an image with the subject looks like miniature objects. The number of recorded pixels is fixed at 5M for the 4:3 aspect ratio and 4M for the 16:9 aspect ratio.
HDR HDR Filter	For capturing an image with HDR-like effect.

1 **Use the four-way controller (2 3 4 5) to select (Miniature) or HDR (HDR) from the Capture Mode Palette.**

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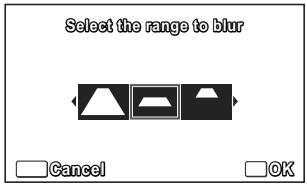
2 Press the OK button.

When the mode is selected, the screen for selecting the area to be blurred is displayed.
When the **HDR** mode is selected, proceed to Step 5.

3 Use the four-way controller (4 5) to select an option.



	Focuses on the bottom of the image and blurs the top.
	Focuses on the center of the image and blurs the top and bottom.
	Focuses on the top of the image and blurs the bottom.

4 Press the OK button.

The or **HDR** mode is selected and the camera returns to capture status.
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.59).

5 Press the shutter release button halfway.

The focus frame on the display turns green when the camera focuses on the subject at the correct distance.

6 Press the shutter release button fully.

The picture is taken.

Processing the captured images by using the Miniature/HDR filter 1 p.108

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Selecting the Flash Mode

Auto	The flash discharges automatically depending on the light conditions. If the Face Detection function is activated, the flash mode is automatically set to .
Flash Off	The flash does not discharge, regardless of the brightness. Use this mode to take pictures where flash photography is prohibited.
Flash On	The flash discharges regardless of the brightness.
Flash On + Red-eye	This mode reduces the phenomenon of red eyes caused by the light from the flash being reflected in the subject's eyes. The flash discharges regardless of the light conditions. A pre-flash discharges before the main flash.

memo

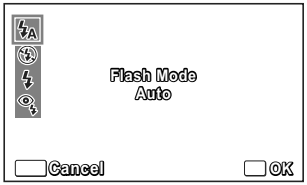
- The flash mode is fixed at in the following situations:
  - When S (Fireworks) is selected as the shooting mode
  - When recording a movie
  - When (Continuous Shooting) or (Burst Shooting) is selected as the drive mode
  - When (Infinity) is selected as the focus mode
- In 9 (Green) mode, you can only select or .
- In (Night Scene) mode, you cannot select .

Caution

Using the flash when capturing images at a close distance may cause the light distribution to be uneven.

1 Press the four-way controller (4) in A mode.

The [Flash Mode] screen appears. The flash mode changes each time the button is pressed. You can also change the setting using the four-way controller (2 3).



2 Press the OK button.

The setting is saved and the camera returns to capture status.

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About the red-eye phenomenon

Taking pictures using the flash may cause the subject's eyes to appear red in the resulting picture. This phenomenon occurs when the light from the flash is reflected in the subject's eyes. It can be reduced by illuminating the area around the subject or moving closer to the subject and zooming out to a wider angle. Setting the flash mode to $^{\circledR}$ is also an effective way of reducing red eyes.
If the subject's eyes appear red despite such precautions, they can be corrected by the red-eye compensation function (p.112).

Saving the Flash Mode setting 1 p.87

Selecting the Drive Mode

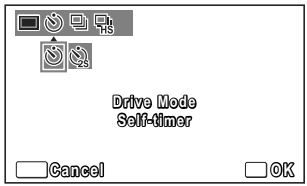
	Self-timer	Use this mode when you want to be included in a group picture. The picture is taken approximately ten seconds after the shutter release button is pressed.
	2 sec. Self-timer	Use this mode to avoid camera shake. The picture is taken approximately two seconds after the shutter release button is pressed.
	Continuous Shooting	Each time an image is taken, it is saved in the memory before the next image is taken. The higher the image quality, the longer the interval between shots. You can continue shooting until the capacity of the SD Memory Card or the built-in memory is full.
	Burst Shooting	The number of recorded pixels is fixed at 5M for the 4:3 aspect ratio and 4M 16:9 for the 16:9 aspect ratio.

1 Press the four-way controller (2) in A mode.

The [Drive Mode] screen appears.
The drive mode changes each time the button is pressed. You can also change the mode using the four-way controller (4 5).
To select , press the four-way controller (3) after choosing , and then use the four-way controller (4 5).

2 Press the OK button.

The setting is saved and the camera returns to capture status.



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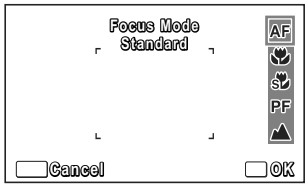
Selecting the Focus Mode

AF Standard	This mode is used when the distance to the subject is 40 cm (16 in.) or more. The camera is focused on the subject in the autofocus area when the shutter release button is pressed halfway. When the subject is close to the camera, the Auto-Macro function is activated and appears on the display.
Macro	This mode is used when the distance to the subject is approx. 10 cm to 50 cm (4 in. to 20 in.). The camera is focused on the subject in the autofocus area when the shutter release button is pressed halfway.
Super Macro	This mode is used when the distance to the subject is approx. 5 cm to 20 cm (2 in. to 8 in.). The camera is focused on the subject in the autofocus area when the shutter release button is pressed halfway.
PF Pan Focus	This mode is used when you ask someone to take pictures for you, or when taking pictures of the scenery through the window of a car or train. The entire picture, from the front to the back, is focused.
Infinity	This mode is used for taking distant objects. The flash is set to (Flash Off).

1 Press the four-way controller (5) in A mode.

The [Focus Mode] screen appears. The focus mode changes each time the button is pressed. You can also change the setting using the four-way controller (2 3).



2 Press the OK button.

The setting is saved and the camera returns to capture status.

memo

- In 9 (Green) mode, you can only select **AF**, or **PF**.
- The focus mode is fixed at in S (Fireworks) mode.
- When shooting with selected, if the subject is further than 50 cm away, the camera automatically focuses to ∞ (Infinity). By pressing the shutter release button fully, you can also take a picture even when the focus is not set.

Saving the Focus Mode setting 1 p.87

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Setting the [A Rec. Mode] Menu

To set the main shooting functions, choose each function on the [A Rec. Mode] menu. Refer to the explanation of the respective functions for how to change the settings.

1 **Press the MENU button in A mode.**
The [A Rec. Mode] menu appears.

2 **Use the four-way controller (2 3) to select an item and change its setting.**

3 **Press the MENU button after changing the setting.**
The A mode screen reappears. The setting is saved and the camera returns to capture status.

To Set the Focusing Area

You can change the autofocus area (Focusing Area).

J	Multiple	Normal autofocus area
K	Spot	The autofocus area becomes smaller.
W	Automatic Tracking AF	Keeps moving subjects in focus.

1 **Use the four-way controller (2 3) to select [Focusing Area] in the [A Rec. Mode] menu.**

2 **Press the four-way controller (5).**
A pull-down menu appears.

3 **Use the four-way controller (2 3) to change the focusing area setting.**

4 **Press the OK button.**
The setting is saved.

memo In 9 (Green), AUTO PICT (Auto Picture) and S (Fireworks) modes, the focusing area is fixed at J .

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Selecting the Number of Recorded Pixels

You can choose from six recorded pixels settings for still pictures. The larger the number of recorded pixels, the clearer the details will appear when you print your picture. As the quality of the printed picture also depends on the image quality, exposure control, resolution of the printer, and other factors, you do not need to select more than the required number of recorded pixels. The more pixels there are, the larger the picture and the bigger the file size.
Refer to the following table for the appropriate settings according to expected usage.

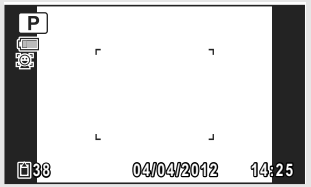
Recorded Pixels		Expected Usage
16M	4608×3456	For printing high quality photos or A4-size or larger prints, or editing images on a computer.
12M 3:2	3456×3456	
12M 16:9	4608×2592	For making postcard-size prints.
7M	3072×2304	
2M 16:9	1920×1080	For posting on a website or attaching to e-mail.
640	640×480	

Clearer ↑

The default setting is 12M 16:9.

memo

If you select 16M, 7M or 640, the aspect ratio of the image is 4:3 and the monitor display for recording and playback is as shown on the right.



1 Use the four-way controller (2 3) to select [Recorded Pixels] in the [A Rec. Mode] menu.

2 Press the four-way controller (5).

A pull-down menu appears.

3 Use the four-way controller (2 3) to change the number of recorded pixels.

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Adjusting the White Balance

You can take pictures in natural colors by adjusting the white balance according to the light conditions at the time of shooting.

F	Auto	The camera adjusts the white balance automatically.
G	Daylight	Use this mode when taking pictures outside in sunlight.
	Shade	Use this mode when taking pictures outside in the shade.
I	Tungsten Light	Use this mode when taking pictures under electric or other tungsten light.
J	Fluores. Light	Use this mode when taking pictures under fluorescent light.
K	Manual	Use this mode when adjusting the white balance manually.

memo

- Set another white balance setting if you are not satisfied with the color balance of pictures taken with the [White Balance] set to F .
- Depending on the selected shooting mode, the white balance setting may not be changed. Refer to “Functions Available for Each Shooting Mode” (p.148) for details.

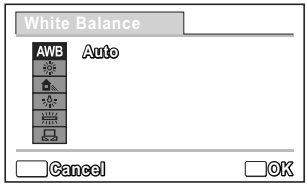
1 Use the four-way controller (2 3) to select [White Balance] in the [A Rec. Mode] menu.

2 Press the four-way controller (5).

The [White Balance] screen appears.

3 Use the four-way controller (2 3) to change the setting.

You can check the result of selected white balance setting on the preview image each time you press the four-way controller (2 3).



4 Press the OK button.

The setting is saved.

memo

If you change the [White Balance] setting frequently, you can save time by assigning it to the Green button (p.83).

Saving the White Balance setting 1 p.87

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To Set the White Balance Manually

Have a blank sheet of white paper or similar material ready.

1 **In the [White Balance] screen, use the four-way controller (2 3) to select K (Manual).**

2 **Point the camera at the blank sheet of paper or other material so that it fills the frame displayed in the center of the screen.**

3 **Press the shutter release button fully.**
The white balance is automatically adjusted.

4 **Press the OK button.**
The setting is saved and the [A Rec. Mode] menu reappears.

Setting the Sensitivity

You can select the sensitivity to suit the brightness of the surroundings.

Auto	The sensitivity is automatically adjusted by the camera. (Sensitivity 64 - 800)
64	The lower the sensitivity, the less noise that affects the image. The shutter speed will be slower in low light conditions.
100	
200	
400	
800	
1600	
3200	Higher sensitivity settings use faster shutter speeds in low light conditions to reduce camera shake, but the image may be affected by noise.
6400	

1 **Use the four-way controller (2 3) to select [Sensitivity] in the [A Rec. Mode] menu.**

2 **Press the four-way controller (5).**
A pull-down menu appears.

3 **Use the four-way controller (2 3) to change the sensitivity.**

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4 Press the 4 button.

The setting is saved.

- When the sensitivity is set to 3200 or 6400, the number of recorded pixels is fixed at f for the 4:3 aspect ratio and 1 for the 16:9 aspect ratio.
- In 9 (Green) mode, only [Auto] (sensitivity 64 - 800) is available.
- In c (Digital SR) mode, only [Auto] (sensitivity 64 - 6400) is available.
- When recording a movie, only [Auto] (sensitivity 512 - 4800) is available.
- In S (Fireworks) mode, the sensitivity is fixed at the minimum value.
- When q (Burst Shooting) is selected as the drive mode, only [Auto] (sensitivity 256 - 1600) is available.
- If you change the [Sensitivity] setting frequently, you can save time by assigning it to the Green button (p.83).

Saving the Sensitivity setting 1 p.87

Switching the Face Detection Function

The Face Detection function locates faces in the frame and automatically adjusts the focus and exposure for those faces. You can change the setting of the function so that the camera will automatically release the shutter when one or more of the subjects smile. The default setting is [On] for [Face Detection].

1 Use the four-way controller (23) to select [Face Detection] in the [A Rec. Mode] menu.

2 Press the four-way controller (5).

A pull-down menu appears.

3 Use the four-way controller (23) to select an option.

On	The camera detects a person's face.
Smile	The camera automatically release the shutter when your subject smiles.
Off	The camera does not detect a person's face.

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4 Press the 4 button.

The setting is saved.

The Face Detection icon appears on the display.

I	When [Face Detection] is set to [On]
J	When [Face Detection] is set to [Smile]

memo

- Face Detection AF and AE may not work if the subject is wearing sunglasses, has part of their face covered or is not looking toward the camera.
- If the camera cannot detect the subject's face, the camera focuses using the setting currently selected in [Focusing Area].
- When [Face Detection] is set to [Smile], the shutter may not be released automatically because the Smile Capture function may not work in some situations, such as when the detected face is too small. If this happens, press the shutter release button to release the shutter.
- [Face Detection] cannot be set to [Off] in b (Auto Picture), c (Portrait), B (Night Scene Portrait), d (Natural Skin Tone) or R (Kids) mode.
- [Face Detection] is automatically set to [On] in 9 (Green), b (Auto Picture), c (Portrait), B (Night Scene Portrait), d (Natural Skin Tone) or R (Kids) mode. When switching to another mode from one of these modes, the Face Detection setting returns to the previous setting.
- For movies, the Face Detection function is activated before recording starts. The face detection frame is not displayed while recording a movie.

Setting the Image Sharpness (Sharpness)

You can give the image sharp or soft outlines.

1 Use the four-way controller (23) to select [Sharpness] in the [A Rec. Mode] menu.

2 Use the four-way controller (45) to change the sharpness level.

F Soft
G Normal
H Sharp

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Setting the Color Saturation (Saturation)

You can set the color saturation.

1 **Use the four-way controller (2 3) to select [Saturation] in the [A Rec. Mode] menu.**

2 **Use the four-way controller (4 5) to change the saturation level.**

F Low
G Normal
H High

Setting the Image Contrast (Contrast)

You can set the image contrast level.

1 **Use the four-way controller (2 3) to select [Contrast] in the [A Rec. Mode] menu.**

2 **Use the four-way controller (4 5) to change the contrast level.**

F Low
G Normal
H High

Setting the Date Imprint Function

You can choose whether to imprint the date and/or time when taking still pictures.

1 **Use the four-way controller (2 3) to select [Date Imprint] in the [A Rec. Mode] menu.**

2 **Press the four-way controller (5).**

A pull-down menu appears.

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3 **Use the four-way controller (2 3) to select the Date Imprint details.**

Choose from [Date], [Date & Time], [Time] or [Off].

4 **Press the OK button.**

The setting is saved.

Caution

- The date and/or time imprinted cannot be deleted.
- Note that if the printer or the image editing software is set to print the date and the images to be printed already have the date and/or time imprinted, the imprinted dates and/or times may overlap.

memo

- DATE appears on the display in A mode when [Date Imprint] is set.
- The date and/or time are imprinted on the picture in the format set in the [Date Adjustment] screen (p.40).

Calling Up a Specific Function

You can assign a function to the Green button and recall it quickly by simply pressing the Green button. This is useful to save time to get to the frequently used function.

The following functions can be assigned to the Green button:

- 9 (Green) Mode
- White Balance
- Sensitivity
- EV Compensation

memo

- The Green button setting can be returned to its default value by selecting [Reset] on the [🔧 Setting] menu.
- The functions other than the 9 (Green) mode can be set in the usual manner on the [A Rec. Mode] menu.
- Although you can approach a function by assigning it to the Green button or selecting it from the [A Rec. Mode] menu, you cannot save different settings for each case.

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To Assign a Function to the Green Button

1 **Use the four-way controller (2 3) to select [Green Button] in the [A Rec. Mode] menu.**

2 **Press the four-way controller (5).**
A pull-down menu appears.

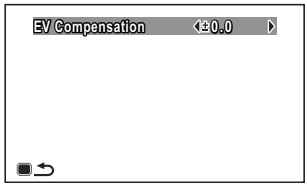
3 **Use the four-way controller (2 3) to select a function you want to assign, and press the OK button.**

4 **Press the MENU button.**
The selected function is assigned to the Green button.

To Use the Green Button

1 **Press the Green button in A mode.**
The function assigned to the Green button is called up.

2 **Use the four-way controller (4 5) to change the setting and press the OK button.**
The camera returns to capture status.



Taking Pictures in Basic Mode (Green Mode) 1 p.61

memo When a function other than the 9 (Green) mode is assigned to the Green button, the camera returns to the original screen if no operation is performed for one minute after the Green button is pressed.

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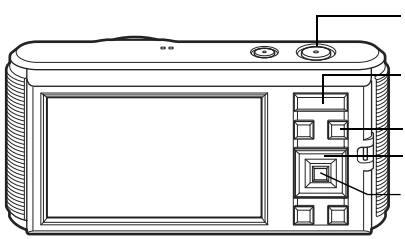
Recording a Movie

This mode enables you to record movies. Sound is recorded at the same time.



1 Point the camera at your subject in A mode.

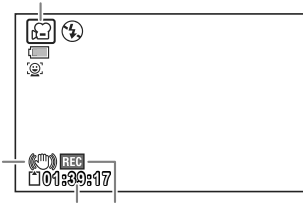
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.59). (The frame disappears when recording starts.)

2 Press the Movie button.

The camera automatically focuses on the subject and compensates the exposure. Recording starts.
You can continue recording until the built-in memory or the SD Memory Card is full, or the size of the recorded movie reaches 2 GB.

The following information appears on the display.

1 Movie mode
2 Movie SR setting
3 Remaining recordable time
4 Recording (blinks)



You can change the captured area by pressing the zoom button.

Right (**T**) Enlarges the subject.
Left (**W**) Widens the area that is captured by the camera.

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3 Press the Movie button.

Recording stops.

Playing Back a Movie 1 p.90

- The flash does not discharge while recording a movie.
- The autofocus system does not operate while recording a movie.
- You can use optical zoom only before recording, while digital zoom is available both before and during recording.
- Recording does not start while a menu screen is being displayed or in playback mode even if the Movie button is pressed.

Keeping the Movie Button Pressed

If you keep the Movie button pressed for more than one second, recording will continue as long as you keep the button pressed. Shooting stops when you take your finger off the Movie button.

Setting the [Movie] Menu

1 Press the MENU button in A mode.

The [A Rec. Mode] menu appears.

2 Press the four-way controller (5) or zoom button towards the right (T).

The [Movie] menu appears.

3 Use the four-way controller (2 3) to select an item and change its setting.

4 Press the MENU button after changing the setting.

The A mode screen reappears. The setting is saved and the camera returns to capture status.

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Selecting the Recorded Pixels for Movies

You can choose from the following recorded pixels settings for movies. The more pixels there are, the clearer the details and the bigger the file size.

Setting	Recorded Pixels	Frame Rate	Use
1280	1280×720	30 fps	Records images in HDTV format (16:9). Movement is recorded smoothly. (default setting)
640	640×480	30 fps	Suitable for viewing on a TV or computer screen. Movement is recorded smoothly.

* The frame rate (fps) indicates the number of frames per second.

1 **Use the four-way controller (2 3) to select [Recorded Pixels] in the [🎥 Movie] menu.**

2 **Press the four-way controller (5).**
A pull-down menu appears.

3 **Use the four-way controller (2 3) to select the number of recorded pixels.**

4 **Press the OK button.**
The setting is saved.

Setting the Movie SR (Movie Shake Reduction) Function

You can correct camera shake while you are recording a movie with the Movie SR (Movie Shake Reduction) function.

1 **Use the four-way controller (2 3) to select [Movie SR] in the [🎥 Movie] menu.**

2 **Use the four-way controller (4 5) to select O or P.**

O Corrects camera shake.

P Does not correct camera shake.

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1 **Use the four-way controller (2 3) to select [Memory] in the [A Rec. Mode] menu.**

2 **Press the four-way controller (5).**

The [Memory] screen appears.

3 **Use the four-way controller (2 3) to choose an item.**

4 **Use the four-way controller (4 5) to select O or P.**

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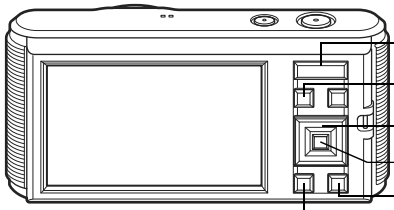
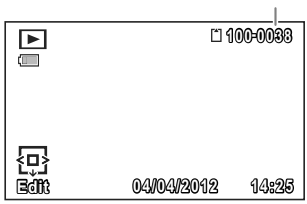


Playing Back Still Pictures

1 Press the ▶ button after taking a picture.

The camera enters the ▶ mode and the captured image appears on the display (single-image display).

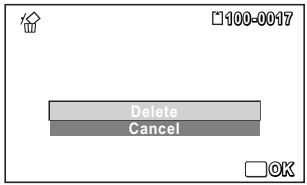


2 Press the four-way controller (4 5).

The previous or next image appears.

To Delete the Displayed Image

Press the i button while the image is displayed to display the Delete screen. Press the four-way controller (2) to select [Delete] and press the **OK** button.



For information on other deletion procedures 1 p.98

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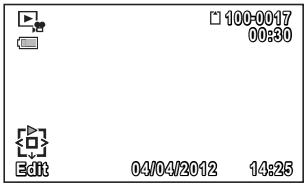
Playing Back a Movie

You can play back the movies you have taken. Recorded sound is played back at the same time.

1 In ▶ mode, use the four-way controller (4 5) to choose the movie you want to play back.

2 Press the four-way controller (2).

Playback starts.



Available operations during playback

Zoom button towards the right (Q)	Increases the volume.
Zoom button towards the left (f)	Reduces the volume.
Four-way controller (2)	Pauses playback.
Four-way controller (5)	Fast-forwards playback while the button is held down.
Four-way controller (4)	Plays back in reverse. Fast-reverses playback while the button is held down.

Available operations while playback is paused

Four-way controller (2)	Resumes playback.
Four-way controller (5)	Forwards the frame.
Four-way controller (4)	Reverses the frame.

3 Press the four-way controller (3).

Playback stops.

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Multi-Image Display

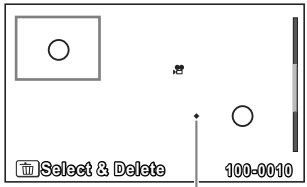
Six-Image Display/Twelve-Image Display

You can display six or twelve thumbnails of images at a time.

1 In ▶ mode, press the zoom button towards the left (f).

The six-image display appears showing with six thumbnails. Press the zoom button towards the left (f) again to switch to twelve-image display.
Six or twelve images appear page by page.

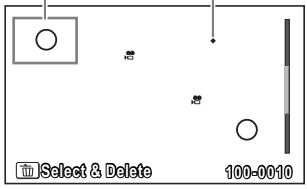
Use the four-way controller (2 3 4 5) to move the frame. If there are too many images to display on one page, pressing the four-way controller (2 4) while the image ① is selected will display the previous page. Similarly, if you choose the image ② and press the four-way controller (3 5), the next page appears.



Six-Image Display

Breakpoint of folders

Frame



Twelve-Image Display

The icons that appear on the images indicate the following:

(No icon)	Still picture
🎥	Movie (the first frame appears)

Press the **OK** button to switch to single-image display of the selected image.
Press the ▶ button to switch to A mode.

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Folder Display/Calendar Display

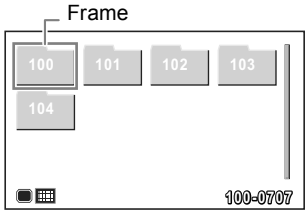
In twelve-image display, press the zoom button towards the left (f) to switch to folder display or calendar display. Press the Green button to switch between folder display and calendar display.

1 In ▶ mode, press the zoom button towards the left (f) three times.

The screen changes to folder display or calendar display.

Folder display

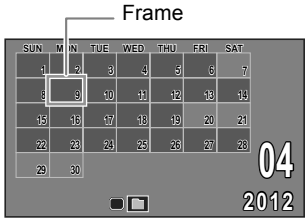
The folder list with recorded images appears on the screen display.



Four-way controller (2 3 4 5)	Moves the frame.
Zoom button towards the right (🔍)/**OK** button	Displays the images in the selected folder in twelve-image display.
MENU button	Returns to twelve-image display.

Calendar display

Images are displayed by date in calendar format.
A thumbnail of the first image recorded on each date is displayed on the calendar.



Four-way controller (2 3 4 5)	Moves the frame.
Zoom button towards the right (🔍)	Displays the images recorded on the selected date in twelve-image display.
OK button	Displays the first image recorded on the selected date in single-image display.
MENU button	Returns to twelve-image display.

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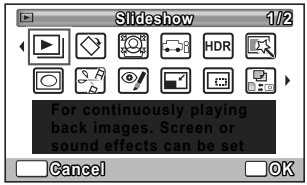
Using the Playback Functions

1 Press the four-way controller (3) in ▶ mode.

The Playback Mode Palette appears.

2 Use the four-way controller (2 3 4 5) to choose a playback mode.

The guide for the selected function appears below.



3 Press the OK button.

The selected playback function is called up.

Playback Mode Palette

Playback Mode		Description	Page
Slideshow		For continuously playing back images. Screen or sound effects can be set.	p.94
Image Rotation		Rotates captured images. Useful when viewing vertical images on a TV.	p.96
Small Face Filter		Reduces the size of faces in the image, for well-proportioned portraits.	p.107
Miniature Filter		Processes the subjects in the images to look like miniature objects.	p.108
HDR HDR Filter		Processes image into HDR-like image.	p.108
Digital Filter		For modifying images with a Color filter or Soft filter.	p.110
Frame Composite		For composing an image with a frame. Select Overwrite or Save as to save.	p.113
Movie Editing	Save as Still Image	For saving one frame from a movie as a still picture.	p.116
	Divide Movies	For dividing a movie into two or more segments.	
Red-eye Compensation		For compensating red-eye. May not work due to the condition of the image.	p.112

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To Set the Slideshow Conditions

You can set the playback interval and also a screen effect and sound effect for when one image changes to the next.

1 **Use the four-way controller (2 3) to select [Interval] in Step 4 on p.94.**

2 **Press the four-way controller (5).**
A pull-down menu appears.

3 **Use the four-way controller (2 3) to select the interval and press the OK button.**
Choose from [3sec.], [5sec.], [10sec.], [20sec.] or [30sec.].

4 **Use the four-way controller (2 3) to select [Screen Effect].**

5 **Press the four-way controller (5).**
A pull-down menu appears.

6 **Use the four-way controller (2 3) to choose the screen effect and press the OK button.**

Wipe	The next image slides over the previous one from left to right
Checker	The next image appears in small square mosaic blocks
Fade	The current image gradually fades out and the next image fades in
Random	Various effects are used randomly
Off	No effect

7 **Use the four-way controller (2 3) to select [Sound Effect].**

8 **Use the four-way controller (4 5) to select O or P.**
Except when the [Screen Effect] is set to [Off], you can choose O (On) or P (Off) for the sound that is played when one image changes to the next.

9 **Use the four-way controller (2 3) to select [Start] and press the OK button.**
The slideshow starts using the selected interval and effect.

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- The slideshow will continue until you press any button other than the **OK** button.
- Movies will be played through to the end before the next picture is played back, regardless of the interval setting. However, pressing the four-way controller (5) while playing back a movie skips to the next image.
- When [Random] is selected for the screen effect, the interval is fixed and the sound effect is set to off.

Connecting the Camera to AV Equipment 1 p.103

Rotating an Image

1 **Press the ▶ button after taking a picture.**
The image appears on the display.

2 **Use the four-way controller (2 3 4 5) to select ◇ (Image Rotation) from the Playback Mode Palette.**

3 **Press the OK button.**
The rotation selection screen (0°, Right 90°, Left 90°, or 180°) appears.

4 **Use the four-way controller (2 3 4 5) to choose the rotation direction and press the OK button.**
The rotated image is saved.

- Movies cannot be rotated.
- Protected images can be rotated, but they cannot be saved in a rotated state.

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Zoom Playback

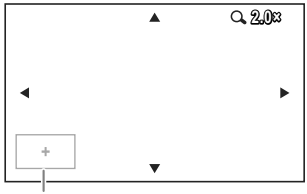
You can magnify an image up to ten times.

1 In ▶ mode, use the four-way controller (4 5) to choose the image you want to magnify.

2 Press the zoom button towards the right (🔍).

The image is magnified (×1.1 to ×10). Continuing to press the zoom button towards the right (🔍) changes the magnification continuously.

You can use the guide mark "+" that appears at the bottom left of the screen to check which portion of the image is magnified.



Guide

Available operations while an image is magnified

Four-way controller (2 3 4 5)	Moves the position to be magnified.
Zoom button towards the right (🔍)	Makes the image bigger (max. ×10).
Zoom button towards the left (f)	Makes the image smaller (min. ×1.1).

3 Press the OK button.

The image returns to single-image display.

memo Movies cannot be magnified.

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Deleting Images

You can delete images that you do not want to keep.

Deleting a Single Image

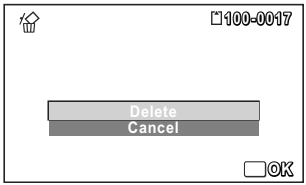
You can delete a single image.

Caution Protected images cannot be deleted (p.100).

1 **In ▶ mode, use the four-way controller (4 5) to choose the image you want to delete.**

2 **Press the i button.**
A confirmation dialog appears.

3 **Use the four-way controller (2 3) to select [Delete].**



4 **Press the OK button.**
The image is deleted.

Deleting Selected Images

You can delete several images selected from the six-/twelve-image display at once.

Caution Protected images cannot be deleted (p.100).

1 **In ▶ mode, press the zoom button towards the left (f) once or twice.**
Six-image display or twelve-image display appears.

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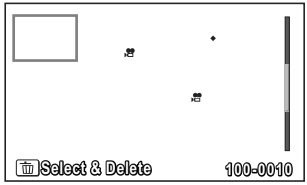
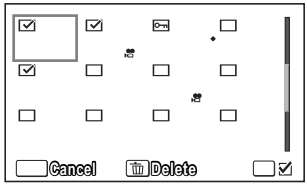
2 **Press the i button.**

P appears on the images.



3 **Use the four-way controller (2 3 4 5) to choose the images that you want to delete, then press the OK button.**



O appears on the selected images.

If you select an image and press the zoom button towards the right (Q), the selected image appears in single-image display as long as the button is pressed, enabling you to check whether you really want to delete it or not. (The display returns to six-/twelve-image display when you release the button.) However, protected images cannot be displayed in single-image display.

4 **Press the i button.**

A confirmation dialog appears.

5 **Use the four-way controller (2 3) to select [Select & Delete].**

6 **Press the OK button.**

The selected images are deleted.

Deleting All Images

You can delete all the images at once.

Caution Protected images cannot be deleted (p.100).

1 **Press the MENU button in ▶ mode.**

The [🔧 Setting] menu appears.

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2 **Use the four-way controller (2 3) to select [Delete All].**

3 **Press the four-way controller (5).**
The [Delete All] screen appears.

4 **Use the four-way controller (2 3) to select [Delete All].**

5 **Press the OK button.**
All the images are deleted.

Protecting Images from Deletion (Protect)

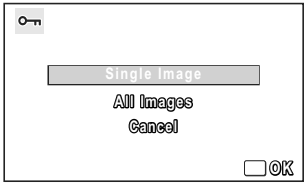
You can protect stored images from being accidentally deleted.

1 **In ▶ mode, use the four-way controller (4 5) to choose the image you want to protect.**

2 **Use the four-way controller (2 3 4 5) to select Z (Protect) from the Playback Mode Palette.**

3 **Press the OK button.**
The screen for selecting [Single Image] or [All Images] appears.

4 **Use the four-way controller (2 3) to select [Single Image].**



5 **Press the OK button.**
The message [Protects this image] appears.
To protect another image, use the four-way controller (4 5) to select the image.

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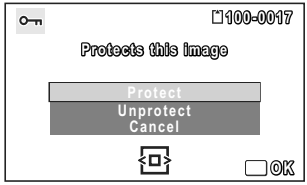
6 **Use the four-way controller (2 3) to select [Protect].**



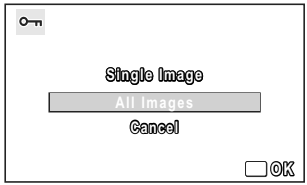
7 **Press the OK button.**

The selected image is protected and the screen shown in Step 4 reappears.
To protect other images, repeat Steps 4 to 7.
Select [Cancel] to exit the Protect setting.

memo
- To cancel the protection of the image, select [Unprotect] in Step 6.
- appears on the protected images during playback.

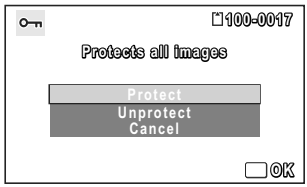
To Protect All Images

1 **Select [All Images] in Step 4 on p.100.**



2 **Press the OK button.**

3 **Use the four-way controller (2 3) to select [Protect].**



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4 Press the 4 button.

All the images are protected and the screen shown in Step 1 reappears.

5 Use the four-way controller (23) to select [Cancel] and press the 4 button.

The Playback Mode Palette reappears.

Caution Protected images will be deleted when the SD Memory Card/built-in memory is formatted (p.123).

memo To cancel the protection of all your images, select [Unprotect] in Step 3.

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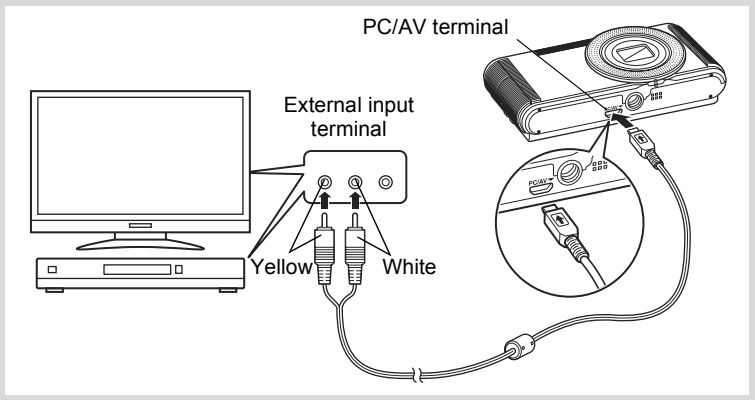
Connecting the Camera to AV Equipment

By using the optional AV cable (I-AVC116), you can capture and play back images on equipment with a video input terminal, such as a TV.



1 **Turn the AV equipment and camera off.**

2 **Face the ➡ mark on the AV cable towards the 4 mark on the camera, and connect the cable to the PC/AV terminal.**

3 **Connect the other ends of the AV cable to the video input terminal and audio input terminal of the AV equipment.**

When using stereo sound equipment, insert the sound terminal into the L (white) terminal.

4 **Turn the AV equipment on.**

When the equipment that the camera is connected to and the equipment that plays back images are different, turn both on.
When viewing images on AV equipment with multiple video input terminals (such as a TV), refer to the operation manual of the equipment and select the video input terminal to which the camera is connected.

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5 Turn the camera on.

- Depending on the country or region, images and sounds may fail to be played back if the video output format is set differently from the one in use there. If this happens, change the video output format setting (p.131).
- The camera display turns off and the volume cannot be adjusted by pressing the zoom button while the camera is connected to AV equipment.

Caution

When connecting to and playing back images on AV equipment, image data is output at normal screen resolution. To view movies recorded at M in HDTV, transfer the data to a computer and play it back on the computer (p.137).

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Changing the Image Size (Resize)

By changing the recorded pixels of a selected image, you can make the file size smaller than the original. You can use this function to continue taking pictures when the SD Memory Card or the built-in memory is full, by making the images smaller and overwriting the original images to make more space available.

Caution

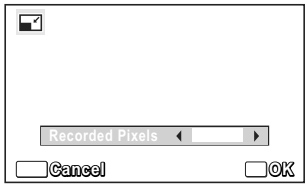
- Images taken with the recorded pixels of 12M / 2M / 640 and movies cannot be resized.
- You cannot select a larger resolution than that of the original image.

1 **In ▶ mode, use the four-way controller (4 5) to choose the image you want to resize.**

2 **Use the four-way controller (2 3 4 5) to select (Resize) from the Playback Mode Palette.**

3 **Press the OK button.**
The screen for choosing the number of recorded pixels appears.

4 **Use the four-way controller (4 5) to select the number of recorded pixels.**



5 **Press the OK button.**
A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

6 **Use the four-way controller (2 3) to select [Overwrite] or [Save as].**

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5 **Press the OK button.**

The cropped image is saved with a new file name.
The number of recorded pixels is selected automatically according to the size of the cropped image.

Processing Images to Make a Face Look Smaller

Images are processed to reduce the size of a person's face detected with the Face Detection function (p.59) when taking pictures so that the face looks smaller.

1 **In ▶ mode, use the four-way controller (4 5) to choose the image you want to edit.**

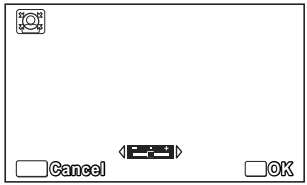
2 **Use the four-way controller (2 3 4 5) to select (Small Face Filter) from the Playback Mode Palette.**

3 **Press the OK button.**

After a face detection frame for a face that can be corrected is displayed, the correction screen appears.

4 **Use the four-way controller (4 5) to change the reduction ratio.**

F	Approx. 5 %
G	Approx. 7 %
H	Approx. 10 %



5 **Press the OK button.**

A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

6 **Use the four-way controller (2 3) to select [Overwrite] or [Save as].**

7 **Press the OK button.**

The camera returns to ▶ mode and the processed image is displayed.

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Caution

You may not be able to process images in the following situations:
- When the size of face taken in relation to an image is too large or too small
- When a face is not in the center of an image

Processing Images with the Miniature/HDR Filter

This function lets you perform special processing on the selected image.

Miniature Filter	Processes the subjects in the images to look like miniature objects. The processed image will be saved with the recorded pixels of 5M for the 4:3 aspect ratio, and 4M for the 16:9 aspect ratio. Images of size 5M or smaller with the 4:3 aspect ratio, and 4M or smaller with the 16:9 aspect ratio, cannot be processed.
HDR HDR Filter	Processes image into HDR-like image.

Caution

Movies and images taken with another camera cannot be processed using the Miniature/HDR Filter function.

1 In ▶ mode, use the four-way controller (4 5) to choose the image you want to edit.

2 Use the four-way controller (2 3 4 5) to select (Miniature) or HDR (HDR) from the Playback Mode Palette.

3 Press the OK button.

When the mode is selected, the screen for selecting the area to be blurred is displayed.
When the **HDR** mode is selected, proceed to Step 6.

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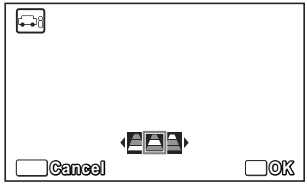
4 Use the four-way controller (4 5) to select an option.

	Processes the image so that the top of the image is blurred as if only the bottom of the image is in focus.
	Processes the image so that the top and bottom of the image is blurred as if only the center of the image is in focus.
	Processes the image so that the bottom of the image is blurred as if only the top of the image is in focus.



5 Press the OK button.

A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

6 Use the four-way controller (2 3) to select [Overwrite] or [Save as].

7 Press the OK button.

The camera returns to ▶ mode and the processed image is displayed.

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Processing Images with the Digital Filters

This function lets you change the color tones and perform special processing on the selected image.

B&W	Processes the image into one that has the look of a black and white photograph.
Sepia	Processes the image into one that has the look of a sepia photograph.
Toy Camera	Processes the image that looks as though it was shot with a toy camera.
Retro	Processes the image into one that has the look of an old photo.
Color	Processes the image using the selected color filter. You can choose from six filters: red, pink, purple, blue, green, and yellow.
Extract Color	Extracts only a specific color and processes the rest of the image into black and white. You can choose from three filters: red, green, and blue.
Color Emphasis	There are four filters: Sky Blue/Fresh Green/Delicate Pink/Autumn Leaves.
Soft	Processes the image into one that appears soft overall.
Brightness	Adjusts the brightness of the image.

Caution Movies and images taken with another camera cannot be processed using the Digital Filter function.

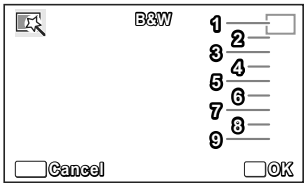
1 In ▶ mode, use the four-way controller (4 5) to choose the image you want to edit.

2 Use the four-way controller (2 3 4 5) to select (Digital Filter) from the Playback Mode Palette.

3 Press the OK button.

The filter selection screen appears.

1 B&W
2 Sepia
3 Toy Camera
4 Retro
5 Color
6 Extract Color
7 Color Emphasis
8 Soft
9 Brightness



Subsequent steps vary depending on your selection.

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To Select a B&W, Sepia or Soft Filter

4 Use the four-way controller (23) to choose a filter.
The preview image of the result of the filter effect appears.

5 Press the 4 button.
A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

6 Use the four-way controller (23) to select [Overwrite] or [Save as].

7 Press the 4 button.
The image processed with the filter is saved.

To Select a Retro, Color, Extract Color or Color Emphasis Filter

4 Use the four-way controller (23) to choose a filter.
The preview image of the result of the filter effect appears.

5 Use the four-way controller (45) to choose the color.
The color filter changes in the following sequence each time the four-way controller (5) is pressed.

Retro	Original image o Amber o Blue
Color	Red o Pink o Purple o Blue o Green o Yellow
Extract Color	Red o Green o Blue
Color Emphasis	Sky Blue o Fresh Green o Delicate Pink o Autumn Leaves

6 Press the 4 button.
A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

7 Use the four-way controller (23) to select [Overwrite] or [Save as].

8 Press the 4 button.
The image processed with the filter is saved.

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To Select a Toy Camera or Brightness Filter

4 **Use the four-way controller (2 3) to choose a filter.**
The preview image of the result of the filter effect appears.

5 **Use the four-way controller (4 5) to adjust the effect.**

	Four-way controller (4)	Default Setting	Four-way controller (5)
Toy Camera	Weak	Standard	Strong
Brightness	Dark	Standard	Bright

6 **Press the OK button.**
A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

7 **Use the four-way controller (2 3) to select [Overwrite] or [Save as].**

8 **Press the OK button.**
The image processed with the filter is saved.

Compensating for an Unwanted Red-eye Effect

You can correct images where the flash has caused the subject to appear with red eyes.

Caution

The red-eye compensation function can only be used with still pictures taken with this camera. The red-eye compensation function cannot be used on movies and on images where red eyes cannot be detected on the camera.

1 **In ▶ mode, use the four-way controller (4 5) to choose the image you want to correct.**

2 **Use the four-way controller (2 3 4 5) to select (Red-eye Compensation) from the Playback Mode Palette.**

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3 **Press the OK button.**

A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

4 **Use the four-way controller (2 3) to select [Overwrite] or [Save as].**

5 **Press the OK button.**

The processed image is saved.

Adding a Frame (Frame Composite)

This function lets you add a decorative frame to still pictures. There are three frames already stored in the camera.

Caution

The Frame Composite function cannot be used on images taken with the recorded pixels of 12M (4:3)/2M (16:9), images of size 3M or smaller with the 4:3 aspect ratio, images of size 2M (16:9) or smaller with the 16:9 aspect ratio, and movies.

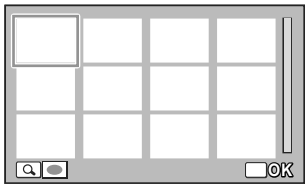
1 **In ▶ mode, use the four-way controller (4 5) to choose the image to which you want to add a frame.**

2 **Use the four-way controller (2 3 4 5) to select ⬭ (Frame Composite) from the Playback Mode Palette.**

3 **Press the OK button.**

The 12-frame display of the frame selection screen appears.

4 **Use the four-way controller (2 3 4 5) to choose a frame.**



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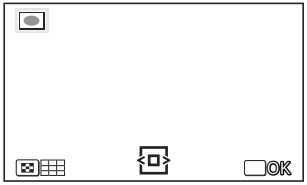
5 Press the zoom button towards the right (y).

The selected frame appears in single-image display.
You can choose another frame using either of the following operations.

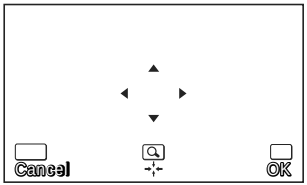
Four-way controller (45)	Press to choose a different frame.
Zoom button towards the left (f)	Returns to the 12-frame display of the frame selection screen, and then lets you choose a different frame in the same way as Step 4.



6 Press the 4 button.

The image position and size adjustment screen appears.
You can adjust the image using the following operations.

Four-way controller (2345)	Press to adjust the position of the image
Zoom button	Makes the image larger or smaller.



7 Press the 4 button.

A confirmation dialog for overwriting the image appears.
If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

8 Use the four-way controller (23) to select [Overwrite] or [Save as].

9 Press the 4 button.

The processed image will be saved with the recorded pixels of h for the 4:3 aspect ratio, and h for the 16:9 aspect ratio.

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Optional Frames

In addition to the built-in frames that come with this camera, there are optional frames included on the supplied CD-ROM. You can save the optional frames to the camera's built-in memory or an SD Memory Card. To save them to the built-in memory, first remove the SD Memory Card before proceeding.

To Copy Frames

1. **Connect the camera to a computer using the provided USB cable.**

   Refer to "Connecting to a Computer" (p.137) for instructions on connecting the camera to a computer.

2. **When the device detection window opens, click [Cancel].**

3. **Insert the CD-ROM into the CD/DVD drive.**

4. **When the installer window opens, click [EXIT].**

5. **Copy the desired files from the FRAME folder in the root directory of the CD-ROM to the FRAME folder on the camera (removable disk).**

   For information on working with files on a computer, refer to the instruction manual supplied with the computer.

6. **Disconnect the USB cable from the computer and camera.**

   Refer to "Connecting to a Computer" (p.137) for instructions on disconnecting the cable.

- Frames can be stored both in the built-in memory and on an SD Memory Card, but using large numbers of frames may slow down processing speed.

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To Use a New Frame

Frames downloaded from the PENTAX website or other source can be used for adding a frame to pictures.

- Extract the downloaded frame and copy it to the FRAME folder in the built-in memory or on the SD Memory Card.
- The FRAME folder is created when the SD Memory Card is formatted with this camera.
- For more information on downloading, refer to the PENTAX website.
- Up to a total of 90 frames including the three default frames can be stored, but using large numbers of frames may slow down processing speed.

Editing Movies

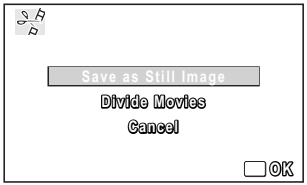
You can extract a frame from the recorded movie to save as a still picture or divide a movie into two or more segments.

1 **In ▶ mode, use the four-way controller (4 5) to choose the movie you want to edit.**

2 **Use the four-way controller (2 3 4 5) to select (Movie Editing) from the Playback Mode Palette.**

3 **Press the OK button.**

The movie editing selection screen appears.
Subsequent steps vary depending on your selection.



To Save a Frame from a Movie as a Still Picture

4 **Select [Save as Still Image] on the movie editing selection screen.**

5 **Press the OK button.**

The screen appears for selecting a frame to be saved as a still picture.

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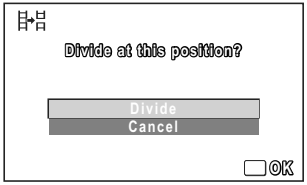
8 Use the four-way controller (2 3) to select [Divide].



9 Press the OK button.

The movie is divided at the specified position, each segment is saved as a new file, and the original movie is deleted.

Caution Protected movies cannot be divided.

Copying Images

You can copy images from the built-in memory to the SD Memory Card and vice versa. This function can be selected only when an SD Memory Card has been inserted in the camera.

Caution Make sure that the camera is turned off before inserting or removing the SD Memory Card.

1 Use the four-way controller (2 3 4 5) to select (Image Copy) from the Playback Mode Palette.

2 Press the OK button.

The copying method selection screen appears.
Subsequent steps vary depending on your selection.

To Copy Files from the Built-in Memory to the SD Memory Card

All the images in the built-in memory are copied to the SD Memory Card at once. Before copying the images, make sure that there is enough space on the SD Memory Card.

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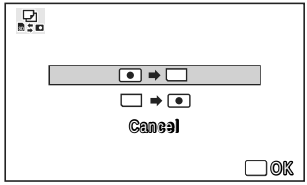
3 Use the four-way controller (23) to select [2}{].



4 Press the 4 button.

All the images are copied to the SD Memory Card.

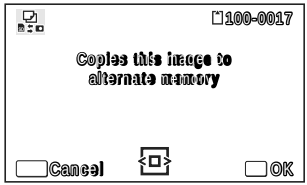
To Copy Files from the SD Memory Card to the Built-in Memory

Selected images from the SD Memory Card are copied to the built-in memory one by one.

3 Use the four-way controller (23) to select [{}2].

4 Press the 4 button.

5 Use the four-way controller (45) to select the image you want to copy.



6 Press the 4 button.

The selected image is copied to the built-in memory.

To copy other images, repeat Steps 3 to 6. Select [Cancel] to exit the copy operation.

memo When a file is copied from the SD Memory Card to the built-in memory, it is assigned a new file name.

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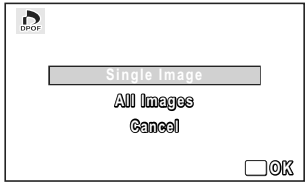
3 Use the four-way controller (2 3) to select [Single Image].



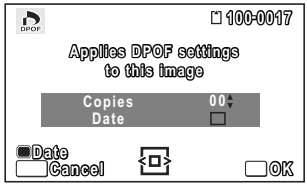
4 Press the OK button.

The message [Applies DPOF settings to this image] appears.

5 Use the four-way controller (4 5) to select an image.

If DPOF settings have already been made for the selected image, the previous number of copies and date setting (O or P) will be displayed.

6 Use the four-way controller (2 3) to choose the number of copies.

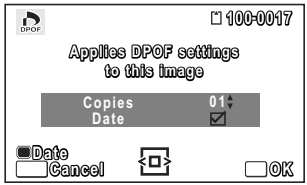


7 Press the Green button to switch O or P for [Date] setting.

O The date will be imprinted.

P The date will not be imprinted.

To continue setting the DPOF print order data, repeat Steps 5 to 7.



8 Press the OK button.

The settings are saved and the screen shown in Step 3 reappears.

Caution

Depending on the printer or printing equipment at the photo processing lab, the date may not be imprinted on the pictures even if O (On) is selected for [Date] in DPOF setting.

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memo To cancel DPOF settings, set the number of copies to [00] in Step 6 and press the **OK** button.

Printing All Images

DPOF settings are applied to all the images stored in the camera.

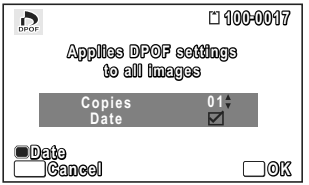
1 **Select [All Images] in Step 3 on p.121.**

2 **Press the OK button.**

The message [Applies DPOF settings to all images] appears.

3 **Choose the number of copies and switch ○ or ▽ for [Date] setting.**

Refer to Steps 6 and 7 in “Printing a Single Image” (p.121) for details on how to make the settings.



4 **Press the OK button.**

The settings specified for all the images are saved and the DPOF setting method selection screen reappears.

Caution
- The number of copies specified in the [All Images] setting applies to all the images. Before printing, check that the number is correct.
- DPOF settings specified for single images are canceled when settings are made with [All Images].

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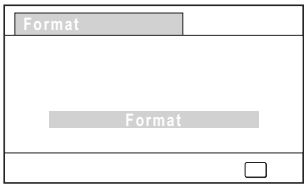
1 **Use the four-way controller (2 3) to select [Format] in the [🔧 Setting] menu.**

2 **Press the four-way controller (5).**
The [Format] screen appears.

3 **Use the four-way controller (2 3) to select [Format].**



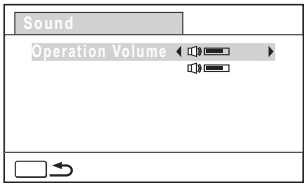
4 **Press the OK button.**
Formatting starts.
When formatting is completed, the camera returns to ▶ mode.

Changing the Sound Settings

You can adjust the volume of operation sounds and change the type of sound.

1 **Use the four-way controller (2 3) to select [Sound] in the [🔧 Setting] menu.**

2 **Press the four-way controller (5).**
The [Sound] screen appears.
Subsequent steps vary depending on your selection.



To Change the Operation Volume/Playback Volume

3 **Use the four-way controller (2 3) to select [Operation Volume].**

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4 **Use the four-way controller (4 5) to adjust the volume.**
Set the volume to 🔇 to mute the start-up sound, shutter sound, operation sound, and self-timer sound.

5 **Change [Playback Volume] in the same way as in Steps 3 and 4.**

To Change the Sound Type

3 **Use the four-way controller (2 3) to select [Start-up Sound].**

4 **Press the four-way controller (5).**
A pull-down menu appears.

5 **Use the four-way controller (2 3) to select the sound type.**
Choose from [1], [2], [3] or [Off].

6 **Press the OK button.**

7 **Set [Shutter Sound], [Operation Sound] and [Self-timer Sound] in the same way as in Steps 3 to 6.**

8 **Press the MENU button twice.**
The camera returns to ▶ mode.

Changing the Date and Time

You can change the initial date and time settings (p.40). Also, you can change the format in which the date appears on the camera.

1 **Use the four-way controller (2 3) to select [Date Adjustment] in the [🔧 Setting] menu.**

2 **Press the four-way controller (5).**
The [Date Adjustment] screen appears.

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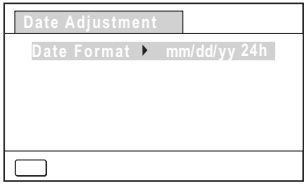
3 **Press the four-way controller (5).**

The frame moves to [mm/dd/yy]. Depending on the initial setting or previous setting, [dd/mm/yy] or [yy/mm/dd] may be displayed.



4 **Use the four-way controller (2 3) to choose the date format.**

Choose from [mm/dd/yy], [dd/mm/yy] or [yy/mm/dd].

5 **Press the four-way controller (5).**

The frame moves to [24h].

6 **Use the four-way controller (2 3) to select [24h] (24-hour display) or [12h] (12-hour display).**

7 **Press the four-way controller (5).**

The frame returns to [Date Format].

8 **Press the four-way controller (3).**

The frame moves to [Date].

9 **Press the four-way controller (5).**

The frame moves to one of the following items depending on the date format set in Step 4.

Month for [mm/dd/yy]
Day for [dd/mm/yy]
Year for [yy/mm/dd]

The following operations use [mm/dd/yy] as an example. The operations are the same even if another date format has been selected.

10 **Use the four-way controller (2 3) to change the month.**

11 **Press the four-way controller (5).**

The frame moves to the day field. Use the four-way controller (2 3) to change the day. After changing the day, change the year in the same manner.

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12 **Change the time in the same way as in Steps 7 to 11.**
If you select [12h] in Step 6, the camera automatically switches the display between am and pm corresponding to the time.

13 **Press the four-way controller (3) to select [Settings complete].**

14 **Press the OK button.**
The date and time settings are saved.

memo When you press the **OK** button in Step 14, the camera clock is reset to 0 seconds. To set the exact time, press the **OK** button when the time signal (on the TV, radio, etc.) reaches 0 seconds.

Setting the World Time

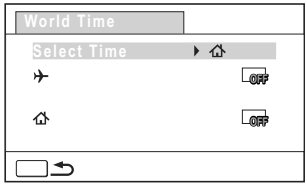
The date and time selected in “Setting the Date and Time” (p.40) and “Changing the Date and Time” (p.125) serve as the Hometown date and time. If you set the Destination city using the World Time function, you can display the Destination date and time when taking pictures in a different time zone.

To Set the Destination

1 **Use the four-way controller (2 3) to select [World Time] in the [🔧 Setting] menu.**

2 **Press the four-way controller (5).**
The [World Time] screen appears.

3 **Use the four-way controller (2 3) to select [✈ Destination].**



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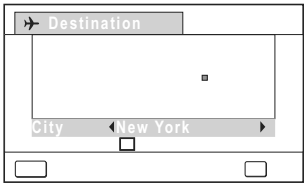
4 **Press the four-way controller (5).**

The [✈ Destination] screen appears. The city that is currently selected blinks on the map.

5 **Use the four-way controller (4 5) to change the Destination city.**

The current time, location and time difference of the selected city appear.



6 **Use the four-way controller (2 3) to select [DST].**

7 **Use the four-way controller (4 5) to select O (On) or P (Off).**

Select O if the Destination city uses daylight saving time.

8 **Press the OK button.**

The settings are saved and the [World Time] screen reappears.

9 **Press the MENU button twice.**

The camera returns to ▶ mode.

memo Select [⌂ Hometown] in Step 3 to set the city and DST setting for the Hometown city.

To Display the Time of the Destination (Select Time)

1 **Use the four-way controller (2 3) to select [World Time] in the [🔧 Setting] menu.**

2 **Press the four-way controller (5).**

The [World Time] screen appears.

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2 **Press the four-way controller (5).**

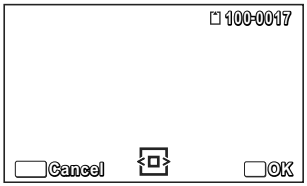
A pull-down menu appears.

3 **Use the four-way controller (2 3) to select the wallpaper type.**

Choose from [1], [2], [3], [USER] or [Off].

4 **Press the OK button.**

When [1], [2], [3] or [Off] is selected:
The setting is saved.
When [USER] is selected:
Use the four-way controller (4 5) to select the wallpaper image. After the selection, press the **OK** button to save the setting.



Adjusting the Brightness of the Display

You can adjust the brightness of the display.

1 **Use the four-way controller (2 3) to select [Brightness Level] in the [Setting] menu.**

2 **Use the four-way controller (4 5) to adjust the brightness.**

F Dark
G Normal
H Bright

3 **Press the MENU button.**

The camera returns to ▶ mode.
The display appears with the set brightness.

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Using the Power Saving Function

You can save battery power by setting the display to dim automatically when no operation is performed for a fixed time. After the power saving function has been activated, the display returns to the ordinary brightness if any button is pressed.

1 **Use the four-way controller (2 3) to select [Power Saving] in the [🔧 Setting] menu.**

2 **Press the four-way controller (5).**
A pull-down menu appears.

3 **Use the four-way controller (2 3) to select the time until the camera enters the power saving mode.**
Choose from [2min.], [1min.], [30sec.], [15sec.], [5sec.] or [Off].

4 **Press the OK button.**
The setting is saved.

memo

- Power Saving does not function in the following situations:
  - While taking pictures in 🖳 (Continuous Shooting) or 🖳ˢˢ (Burst Shooting) mode
  - In playback mode
  - While recording a movie
  - While the camera is connected to a computer
  - While a menu is being displayed
- When no operation is performed after the camera is turned on, the Power Saving function is activated only after 15 seconds elapse even if [5sec.] is set.

Setting the Auto Power Off Function

You can set the camera to turn off automatically when no operation is performed for a fixed time.

1 **Use the four-way controller (2 3) to select [Auto Power Off] in the [🔧 Setting] menu.**

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2 Press the four-way controller (5).
A pull-down menu appears.

3 Use the four-way controller (23) to select the time until the camera turns off automatically.
Choose from [5min.], [3min.] or [Off].

4 Press the 4 button.
The setting is saved.

memo

Auto Power Off does not function in the following situations:
- While taking pictures in j (Continuous Shooting) or q (Burst Shooting) mode
- While recording a movie
- During a slideshow or movie playback
- While the camera is connected to a computer

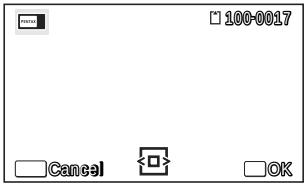
Changing the Start-up Screen

You can choose the start-up screen displayed when the camera is turned on.
You can choose any of the following images as the start-up screen:
- The Guide Display Start-up Screen showing a guide for the shooting modes and buttons
- PENTAX logo
- One of your own images (compatible images only)

1 Use the four-way controller (2345) to select R (Start-up Screen) from the Playback Mode Palette.

2 Press the 4 button.
The image selection screen appears.

3 Use the four-way controller (45) to choose the image for the start-up screen.
Only images available for the start-up screen are displayed. You can also



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Starting-up in Playback Mode

You can turn on the camera by pressing and holding the Q button.

1 Use the four-way controller (23) to select [Playback Mode] in the [W Setting] menu.

2 Use the four-way controller (45) to select O or P.

O Starts up in Playback Mode

P Does not start up in Playback Mode

3 Press the 4 button.

The setting is saved.

Resetting to Default Settings (Reset)

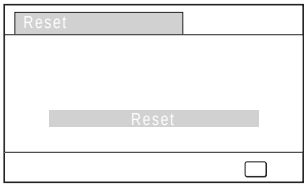
You can reset the camera settings to their defaults. Refer to “Default Settings” (p.154) for the reset settings.

1 Use the four-way controller (23) to select [Reset] in the [W Setting] menu.

2 Press the four-way controller (5).

The [Reset] screen appears.

3 Use the four-way controller (23) to select [Reset].



4 Press the 4 button.

The settings return to the defaults.

memo

The following settings are not affected by resetting:

- Date Adjustment
- World Time
- Language/u
- Video Out

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Setting the USB Connection Mode

Set the device to which the camera is connected with the USB cable.

Caution

Make sure to set the USB Connection mode before connecting your camera to a computer. You cannot perform the following setting if your camera is connected to a computer with the USB cable.

1. **Turn your camera on.**
2. **Use the four-way controller (2 3) to select [USB Connection] in the [🔧 Setting] menu.**
3. **Press the four-way controller (5).**
   A pull-down menu appears.
4. **Use the four-way controller (2 3) to select [MSC].**
5. **Press the OK button.**
   The setting is saved.

MSC and PTP

MSC (Mass Storage Class)
A general-purpose driver program that handles devices connected to the computer via USB as a memory device. Also indicates a standard for controlling USB devices with this driver.
By simply connecting a device that supports USB Mass Storage Class, you can copy, read, and write files from a computer without installing a dedicated driver.

PTP (Picture Transfer Protocol)
A protocol that allows transfer of digital images and control of digital cameras via USB, standardized as ISO 15740.
You can transfer image data between devices that support PTP without installing a device driver.

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- The self-timer lamp blinks while the camera is connected to a computer.
- If there is no SD Memory Card in the camera, the images stored in the built-in memory can be viewed with a computer.
- For information on system requirements, refer to p.140.

Disconnecting the Camera from the Computer

When the camera is being used by an application such as MediaImpression, it cannot be disconnected until the application is closed.

Windows

1 **Click the [Safely Remove Hardware] icon in the task bar located at the bottom-right corner of the desktop.**

2 **Click [Eject (the device connected)].**
The message appears.

3 **Disconnect the USB cable from the Windows PC and your camera.**

Macintosh

1 **Drag [NO NAME] on the desktop to the trash.**
If the SD Memory Card has a volume label, drag the icon of that name to the trash.

2 **Disconnect the USB cable from the Macintosh and your camera.**

The camera will automatically switch to the playback mode when the USB cable is disconnected from the camera or the computer.

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Using the Provided Software

The following software is included in the provided CD-ROM.

Image viewing/managing/editing software
“MediaImpression 3.1 for PENTAX” (for Windows)
“MediaImpression 2.1 for PENTAX” (for Macintosh)

Languages: English, French, German, Spanish, Portuguese, Italian, Dutch, Swedish, Russian, Korean, Chinese (traditional and simplified), Japanese

memo You can edit movies when using the MediaImpression (for Windows)

System Requirements

The following system requirements must be met for you to fully enjoy the images and movies captured with the camera on a computer.

Caution The following lists the minimum system requirements for playing back and editing movies. Operation is not guaranteed on all computers meeting the system requirements.

Windows

OS	Windows XP (SP3), Windows Vista or Windows 7 • The OS must be preinstalled and updated to the latest version.
CPU	Pentium 4 1.6 GHz or equivalent AMD Athlon (Intel Core 2 Duo 2.0 GHz or equivalent AMD Athlon X2 or higher processor recommended)
Memory	512 MB or more (1 GB or more recommended)
Hard Disk Space	300 MB or more
Others	CD/DVD drive USB port as standard equipment 1024 × 768 pixels, 16-bit color monitor or greater

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Caution Windows 95, Windows 98, Windows 98SE, Windows Me, Windows NT and Windows 2000 are not supported.

Macintosh

OS	Mac OS X (Ver.10.3.9, 10.4, 10.5, 10.6, 10.7) • The OS must be preinstalled and updated to the latest version.
CPU	PowerPC G4 800 MHz processor or equivalent CPU (Intel Core Duo or higher processor recommended)
Memory	512 MB or more (1 GB or more recommended)
Hard Disk Space	300 MB or more
Others	CD/DVD drive USB port as standard equipment 1024 × 768 pixels, 16-bit color monitor or greater

Installing the Software

Install the image viewing/managing/editing software “MediaImpression”.

Caution
- Make sure the computer meets the system requirements before installing the software.
- When multiple accounts have been set up in the computer, log on with an account that has administrative rights before installing the software.

Windows

This section outlines installation steps in Windows 7 as an example.

1 Turn your Windows PC on.

2 Insert the provided CD-RO M into the CD/DVD drive.
If the installation screen appears, go to Step 5.

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3 **Click [Computer] in the Start menu.**

4 **Double-click the CD/DVD drive icon.**
The installation screen appears.

5 **Click [MediaImpression 3.1 for PENTAX].**

6 **Choose a language in the "Choose Setup Language" screen and click [OK].**
The setup screen appears. Follow the on-screen guidance and install the software.

7 **Select the file format to use and click [Next].**
All files in the checked format will open with MediaImpression. Remove the check to open the file using another application.

8 **Click [Finish].**
Installation is complete.

9 **Click [Exit] on the installation screen.**
Remove the CD-ROM and reboot the computer.

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Macintosh

1 **Turn your Macintosh on.**

2 **Insert the provided CD-ROM into the CD/DVD drive.**

3 **Double-click the CD-ROM icon.**

4 **Double-click the [Pentax Software Installer] icon.**
The installation screen appears.

5 **Click [MediaImpression 2.1 for PENTAX].**
The setup screen appears. Follow the on-screen guidance and install the software.

6 **Click [Close].**
Installation is complete.

7 **Click [Exit] on the installation screen.**
The window is closed.

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When the [AutoPlay] screen does not appear

1 Double-click the [MediaImpression 3.1 for PENTAX] icon on the desktop.
2 Click [PhotoImpression].
3 Click [Import].

3 Click the folder icon next to [Destination Folder] and specify the destination location.

To transfer all images, proceed to Step 5.

4 Select an image to transfer.

To select multiple images, choose the images while pressing the Ctrl key.

5 Click [Import].

A message appears when transfer is complete.
An arrow mark appears on the transferred images.

memo You can find more information on how to use MediaImpression by using the help pages. Select [Help] in [Menu] at the top right of the screen.

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Using MediaImpression on Macintosh

1 Connect the camera to your Macintosh.

Refer to Steps 2 to 4 on p.138 for details.

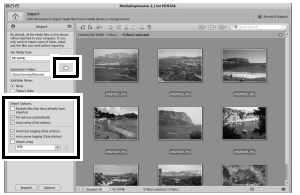
2 Double-click the [MediaImpression 2.1 for PENTAX] icon in the [Applications] folder.

MediaImpression 2.1 for PENTAX starts and the start page appears.

3 Click [Import].

The Import screen appears.

4 Select an image to transfer.



To select multiple images, choose the images while pressing the Command key.
To specify the destination location, click the folder icon.
If any of the “Import Options” are checked, marks will appear on the images that were transferred.

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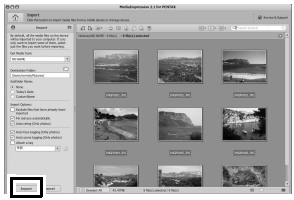
5 Click [Import].



The images are transferred to the computer and the Media Browser screen appears.
When a message appears after transfer is complete, click [Done].

- If the images from the camera are not displayed in the Import screen, select [NO NAME] (or the volume label name) in [Get Media from].
- You can find more information on how to use MediaImpression by using the help pages. Select [ArcSoft MediaImpression Help] in [Help] on the menu bar.

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Functions Available for Each Shooting Mode

z : Can be set. ×: Cannot be set.

Function \ Shooting Mode		AUTO PICT	P	9		R
Zoom button	Zoom operation	z	z	z *1	z	z
Flash Mode	(Auto)	z	z	z	×	z
	(Flash Off)	z	z	z	z	z
	(Flash On)	z	z	×	z	z
	(Flash On + Red-eye)	z	z	×	z	z
Drive Mode	(Standard)	z	z	z	z	z
	(Self-timer)	z	z	z	z	z
	(2 sec. Self-timer)	z	z	z	z	z
	(Continuous Shooting)	z	z	×	z	z
	(Burst Shooting)	z	z	×	z	z
Focus Mode	**AF** (Standard)	z	z	z	z	z
	(Macro)	z	z	z	z	z
	(Super Macro)	z	z	×	z	z
	PF (Pan Focus)	z	z	z	z	z
	(Infinity)	z	z	×	z	z
[A Rec. Mode] menu	Recorded Pixels	z	z	×*5	z	z
	White Balance	×*9	z	×*9	z	×*9
	Focusing Area	×*10	z	×*10	z	z
	Sensitivity	z	z	×*11	z	z
	EV Compensation	×*13	z	×*13	z	z
	Face Detection	z *14	z	×*15	z	z *14
	Sharpness	×	z	×*17	z	×
	Saturation	×	z	×*17	z	×
	Contrast	×	z	×*17	z	×
	Date Imprint	z	z	×*18	z	z

*1 Intelligent Zoom is not available
*2 Only optical zoom is available
*3 Fixed at (Flash Off)
*4 Fixed at (Infinity)
*5 Fixed at 16M
*6 Fixed at 5M for the 4:3 aspect ratio
Fixed at 4M 16:9 for the 16:9 aspect ratio
*7 In mode, fixed at 3M for the 4:3 aspect ratio and 2M 16:9 for the 16:9 aspect ratio
In mode, fixed at 5M for the 4:3 aspect ratio and 4M 16:9 for the 16:9 aspect ratio
*8 Set in the [Movie] menu

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Shooting menu items not listed in this chart can be set in any shooting mode except for Green Mode. However, these settings may not function properly in certain shooting modes and setting conditions even if they can be selected. For further information, please refer to the pages listed below.

						Shooting Mode / Function		Page
z	z *2	z	z	z	z *1	Zoom operation	Zoom button	p.63
z	z	×	z	z	×	(Auto)	Flash Mode	p.70
z	z	×*3	z	z	×*3	(Flash Off)		
z	z	×	z	z	×	(Flash On)		
z	z	×	z	z	×	(Flash On + Red-eye)		
z	z	z	z	z	z	(Standard)	Drive Mode	—
z	z	z	z	z	z	(Self-timer)		p.71
z	z	z	z	z	z	(2 sec. Self-timer)		
z	z	×	×	×	×	(Continuous Shooting)		
z	z	×	×	×	×	(Burst Shooting)		
z	z	×	z	z	z	**AF** (Standard)	Focus Mode	p.73
z	z	×	z	z	z	(Macro)		
z	z	×	z	z	z	(Super Macro)		
z	z	×	z	z	z	**PF** (Pan Focus)		
z	z	×*4	z	z	z	(Infinity)		
z	×*6	z	×*7	z	z *8	Recorded Pixels	[A Rec. Mode] menu	p.75
×*9	z	×*9	z	z	z	White Balance		p.77
z	z	×*10	z	z	z	Focusing Area		p.74
z	×*11	×*12	z	z	×*11	Sensitivity		p.78
z	z	z	z	z	z	EV Compensation		p.76
z *16	z	z	z	z	z	Face Detection		p.79
×	z	×	z	z	z	Sharpness		p.80
×	z	×	z	z	z	Saturation		p.81
×	z	×	z	z	z	Contrast		p.81
z	z	z	z	z	×*18	Date Imprint		p.81

*9 Fixed at F
*10 Fixed at J (Multiple)
*11 Fixed at [Auto]
*12 The sensitivity is fixed at the minimum value
*13 Fixed at ±0.0
*14 [Off] is not available
*15 Fixed at [On]
*16 Available only when Color is selected in c (Text) mode
*17 Fixed at the normal setting
*18 Fixed at [Off]

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Messages

Messages such as the following may appear on the display during camera operation.

Message	Description
Battery depleted	The battery is exhausted. Charge the battery using the power adapter D-PA116 (p.31).
Memory card full	The SD Memory Card is full and no more images can be saved. Insert a new SD Memory Card or delete unwanted images (p.34, p.98). Change the number of recorded pixels of recorded images and try again (p.105).
Built-in memory full	Displayed if the built-in memory is full when saving a file.
Memory card error	Shooting and playback are impossible due to a problem with the SD Memory Card. You may be able to display or copy the images on the card using a computer.
The built-in memory is not formatted	The data within the built-in memory is damaged. Format the built-in memory.
Card is not formatted	The SD Memory Card you have inserted is unformatted or has been formatted on a computer or other device and is not compatible with this camera. Format the SD Memory Card in the camera (p.123).
Card is locked	The SD Memory Card is write-protected (p.6).
Compression error	This message appears when the camera fails to compress an image. Change the number of recorded pixels of the image and try shooting or saving it again.
No image	There is no image on the SD Memory Card or in the built-in memory.
Movie recording stopped	This message appears when the internal temperature of the camera has exceeded normal operating limits while recording a movie.
The camera will turn off to prevent damage from overheating	The camera turned off because it has overheated. Wait until it cools down and then turn it back on.
Deleting	This message appears while deleting an image.
Camera cannot play this image and sound	You are trying to play back an image in a format not supported by this camera. You may be able to play it back on another brand of camera or on your computer.

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Message	Description
Image folder cannot be created	The largest file number (9999) has been assigned to an image in the largest folder number (999) and no more images can be saved. Insert a new SD Memory Card or format the card/built-in memory (p.123).
Protected	The image you are trying to delete is protected (p.100).
Data being recorded	Displayed when you try to switch to ▶ mode while an image is still being recorded, or when an image is being saved or a setting is being changed. It disappears after the image is recorded or the setting is changed.
Data being processed	Displayed when the camera takes more than five seconds to display an image due to image processing, or when the SD Memory Card or the built-in memory is being formatted.
No image to be processed	Displayed when there are no images.
This image cannot be processed	Displayed for files that cannot be processed.
No card in the camera	Displayed when no SD Memory Card is inserted.
Available built-in memory is insufficient to copy the images	Displayed when there is insufficient built-in memory to perform copying.
Cannot process correctly	Displayed when Red-eye Compensation processing fails.
Not enough battery power remaining to activate Pixel Mapping	Appears during pixel mapping if the battery level is insufficient. Charge the battery using the power adapter D-PA116, or replace the battery with a fully charged one. (p.31)

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Troubleshooting

Problem	Cause	Remedy
The camera will not turn on	The battery is not installed	Check if a battery is installed.
	The battery is exhausted	Charge the battery.
No image appears on the display	The camera is connected to a computer	The display is off when the camera is connected to a computer.
	The camera is connected to a TV	The display is off when the camera is connected to a TV.
The display is hard to see	The brightness level of the display is set too dark	Adjust the brightness level in [Brightness Level] in the [🔧 Setting] menu (p.132).
	Power Saving function is activated	When the Power Saving function is activated, the display automatically darkens after a certain amount of time. Press any button to return to the normal brightness level. Select [Off] in [Power Saving] in the [🔧 Setting] menu to turn the Power Saving function off (p.133).
The shutter will not release	The flash is charging	Pictures cannot be taken while the flash is charging. Wait until charging is finished.
	There is no available space on the SD Memory Card or in the built-in memory	Insert an SD Memory Card with available space or delete unwanted images (p.34, p.98).
	Recording	Wait until recording is finished.
The picture is dark when using the flash	The subject is too far away in a dark environment, such as a night scene	The picture becomes dark if the subject is too far away. Take pictures within the specified flash range.

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Problem	Cause	Remedy
The subject is not in focus	The subject is difficult to focus on with autofocus	Lock the focus on an object the same distance away as the subject (by pressing and holding the shutter release button halfway), then aim the camera at your subject and press the shutter release button fully (p.56).
	The subject is not in the focusing area	Locate the desired subject in the focus frame (focusing area) in the center of the display. If it is difficult to do so, first lock the focus on the desired subject (focus lock), and then move the camera to recompose.
The flash does not discharge	The flash mode is set to ⊗	Set to ϟ_A (Auto) or ϟ (Flash On) (p.70).
	The drive mode is set to ▣ or ▣HS The focus mode is set to ▲ The shooting mode is set to S , or while recording a movie	The flash does not discharge in these modes.

memo Very occasionally, static electricity may cause camera malfunction. In this case, remove the battery and install it again. If the camera then works properly, normal condition is restored and you can continue using the camera.

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Default Settings

The table below lists the factory default settings.
The meaning of the indications for menu items with a default setting is explained below.

Last Memory Setting

Yes : The current setting (last memory) is saved when the camera is turned off.
No : The setting returns to the default setting when the camera is turned off.
* : The last memory setting depends on the [Memory] setting (p.87).
— : N/A

Reset Setting

Yes : The setting returns to the default setting with the Reset function (p.136).
No : The setting is saved even after reset.
— : N/A

● [A **Rec. Mode] Menu Items**

Item	Default Setting	Last Memory Setting	Reset Setting	Page
Recorded Pixels	12M 16:9 (4608×2592)	Yes	Yes	p.75
White Balance	F (Auto)	*	Yes	p.77
Focusing Area	J (Multiple)	Yes	Yes	p.74
Sensitivity	Auto	*	Yes	p.78
EV Compensation	±0.0	*	Yes	p.76
Face Detection	On	*	Yes	p.79
Digital Zoom	O (On)	*	Yes	p.64

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Item		Default Setting	Last Memory Setting	Reset Setting	Page
Memory	Flash Mode	O (On)	Yes	Yes	p.87
	Drive Mode	P (Off)	Yes	Yes	
	Focus Mode	P (Off)	Yes	Yes	
	Zoom Position	P (Off)	Yes	Yes	
	White Balance	P (Off)	Yes	Yes	
	Sensitivity	P (Off)	Yes	Yes	
	EV Compensation	P (Off)	Yes	Yes	
	Face Detection	P (Off)	Yes	Yes	
	Digital Zoom	O (On)	Yes	Yes	
	DISPLAY	P (Off)	Yes	Yes	
	File No.	O (On)	Yes	Yes	
Green Button		Green Mode	Yes	Yes	p.82
Sharpness		G (Normal)	Yes	Yes	p.80
Saturation		G (Normal)	Yes	Yes	p.81
Contrast		G (Normal)	Yes	Yes	p.81
Date Imprint		Off	Yes	Yes	p.81

● **[🎥 Movie] Menu Items**

Item	Default Setting	Last Memory Setting	Reset Setting	Page
Recorded Pixels	1280 (1280×720/30 fps)	Yes	Yes	p.86
Movie SR	O (On)	Yes	Yes	p.86

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● [🔧 Setting] Menu Items

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Sound	Operation Volume	3	Yes	Yes	p.124
	Playback Volume	3	Yes	Yes	
	Start-up Sound	Off	Yes	Yes	
	Shutter Sound	1	Yes	Yes	
	Operation Sound	1	Yes	Yes	
	Self-timer Sound	1	Yes	Yes	
Date Adjustment	Date Format (date)	According to the initial setting	Yes	No	p.40 p.125
	Date Format (time)	24h	Yes	No	
	Date	1/1/2012	Yes	No	
	Time	According to the initial setting	Yes	No	
World Time	Select Time	🏠 Hometown	Yes	Yes	p.127
	Destination (City)	According to the initial setting	Yes	No	
	Destination (DST)	P (Off)	Yes	No	
	Hometown (City)	According to the initial setting	Yes	No	
	Hometown (DST)	P (Off)	Yes	No	
Language/言語		According to the initial setting	Yes	No	p.37 p.129
Folder Name		Date	Yes	Yes	p.130
USB Connection		MSC	Yes	Yes	p.137
Video Out		According to the initial setting	Yes	No	p.131
Wallpaper		Off	Yes	Yes	p.131
Brightness Level		G (Normal)	Yes	Yes	p.132
Power Saving		5 sec.	Yes	Yes	p.133
Auto Power Off		3 min.	Yes	Yes	p.133
Reset		Cancel	—	—	p.136
Delete All		Cancel	—	—	p.99
Pixel Mapping		Cancel	—	—	p.135
Playback Mode		O (On)	Yes	Yes	p.136
Format		Cancel	—	—	p.123

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● Playback Mode Palette Items

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Slideshow	Interval	3 sec.	Yes	Yes	p.94
	Screen Effect	Wipe	Yes	Yes	
	Sound Effect	O (On)	Yes	Yes	
Image Rotation		Normal	—	—	p.96
Small Face Filter		G (approx. 7%)	No	No	p.107
Miniature Filter		(Blurring of the top and bottom)	No	No	p.108
HDR Filter		—	—	—	p.108
Digital Filter		B&W	No	—	p.110
Frame Composite		Default 1	Yes	Yes	p.113
Red-eye Compensation		—	—	—	p.112
Movie Editing	Save as Still Image	—	—	—	p.116
	Divide Movies	—	—	—	
Resize	Recorded Pixels	Depending on the picture taken	—	—	p.105
Cropping		Depending on the picture taken	—	—	p.106
Image Copy		Built-in memory " SD Memory Card	—	—	p.118
Protect	Single Image	Depending on the recorded image	—	—	p.100
	All Images	Depending on the recorded image	—	—	
DPOF	Single Image	Copies: 0	—	—	p.120
	All Images	Date: P (Off)	—	—	
Start-up Screen		Off	Yes	Yes	p.134

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● Key Operation

Item		Function	Default Setting	Last Memory Setting	Reset Setting	Page
▶ button		Operation Mode	▶ mode	—	—	—
Zoom button		Zoom Position	Full wide-angle	*	No	p.63
Four-way controller	2	Drive Mode	□ (Standard)	*	Yes	p.71
	3	Shooting Mode	AUTO PICT (Auto Picture)	Yes	Yes	p.57
	4	Flash Mode	$\mathrm{ϟ_A}$ (Auto)	*	Yes	p.70
	5	Focus Mode	**AF** (Standard)	*	Yes	p.73
MENU button		Menu Display	Capture mode: [A Rec. Mode] menu Playback mode: [🔧 Setting] menu	—	—	p.47
OK button		Information Display	Normal	*	Yes	p.20

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List of World Time Cities

City: indicates cities that can be set as either the Initial Setting (p.37) or the World Time (p.127).
Video Output Format: indicates the video output format of the city set as the initial setting.

Region	City	Video Output Format
North America	Honolulu	NTSC
	Anchorage	NTSC
	Vancouver	NTSC
	San Francisco	NTSC
	Los Angeles	NTSC
	Calgary	NTSC
	Denver	NTSC
	Chicago	NTSC
	Miami	NTSC
	Toronto	NTSC
	New York	NTSC
	Halifax	NTSC
Central and South America	Mexico City	NTSC
	Lima	NTSC
	Santiago	NTSC
	Caracas	NTSC
	Buenos Aires	PAL
	Sao Paulo	PAL
	Rio de Janeiro	NTSC
Europe	Lisbon	PAL
	Madrid	PAL
	London	PAL
	Paris	PAL
	Amsterdam	PAL
	Milan	PAL
	Rome	PAL
	Copenhagen	PAL
	Berlin	PAL
	Prague	PAL
	Stockholm	PAL
	Budapest	PAL
	Warsaw	PAL
	Athens	PAL
	Helsinki	PAL
	Moscow	PAL
Africa/ West Asia	Dakar	PAL
	Algiers	PAL
	Johannesburg	PAL
Africa/ West Asia	Istanbul	PAL
	Cairo	PAL
	Jerusalem	PAL
	Nairobi	PAL
	Jeddah	PAL
	Tehran	PAL
	Dubai	PAL
	Karachi	PAL
	Kabul	PAL
	Male	PAL
	Delhi	PAL
	Colombo	PAL
	Kathmandu	PAL
	Dacca	PAL
East Asia	Yangon	NTSC
	Bangkok	PAL
	Kuala Lumpur	PAL
	Vientiane	PAL
	Singapore	PAL
	Phnom Penh	PAL
	Ho Chi Minh	PAL
	Jakarta	PAL
	Hong Kong	PAL
	Beijing	PAL
	Shanghai	PAL
	Manila	NTSC
	Taipei	NTSC
	Seoul	NTSC
	Tokyo	NTSC
	Guam	NTSC
Oceania	Perth	PAL
	Adelaide	PAL
	Sydney	PAL
	Noumea	PAL
	Wellington	PAL
	Auckland	PAL
	Pago Pago	NTSC

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Optional Accessories

A number of dedicated accessories are available for this camera. Products marked with an asterisk (*) are the same as those supplied with the camera.

- **Power supply**
  - **Rechargeable lithium-ion battery D-LI108 (*)**
  - **Power adapter D-PA116 (*)**
  - **Battery charger D-BC108**
- **Cable**
  - **USB cable I-USB116 (*)**
  - **AV cable I-AVC116**
- **Strap**
  - **O-ST116 (*)**
  - **O-ST8** Silver chain strap
  - **O-ST24** Genuine leather strap
  - **O-ST81** Waterproof strap
- **Camera case**
  - **O-CC81**

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Main Specifications

Type	Fully automatic compact digital camera with built-in zoom lens	
Number of Effective Pixels	Approx. 16 megapixels	
Image Sensor	1/2.3 inch CCD	
Number of Recorded Pixels	Still	m (4608×3456), n (3456×3456), o (4608×2592), 6 (3072×2304), h (1920×1080), m (640×480) * Fixed at h for the 4:3 aspect ratio and h for the 16:9 aspect ratio in Frame Composite mode. * Fixed at f for the 4:3 aspect ratio and 1 for the 16:9 aspect ratio in Digital SR/Miniature Filter/Burst Shooting mode, or when the sensitivity is set to 3200 or 6400.
	Movie	M (1280×720/30 fps), G (640×480/30 fps) (recorded pixels/frame rate)
Sensitivity (Standard Output Sensitivity)	Auto (ISO 64 - 800) Manual (ISO 64, 100, 200, 400, 800, 1600, 3200, 6400) * Fixed at Auto (ISO 64 - 6400) in Digital SR mode.	
File Format	Still	JPEG (Exif 2.3), DCF 2.0, DPOF, PRINT Image Matching III
	Movie	AVI (Motion JPEG), approx. 30fps, PCM system, monaural sound, Movie SR (Movie Shake Reduction)
Storage Media	Built-in memory (approx. 41.7 MB), SD Memory Card, SDHC Memory Card, SDXC Memory Card	

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Approximate Image Storage Capacity and Recording Time

Still Pictures

	Built-in Memory	2 GB SD Memory Card
16M 4608×3456	13 pictures	640 pictures
12M (3:2) 3456×3456	18 pictures	842 pictures
12M (16:9) 4608×2592	18 pictures	842 pictures
7M 3072×2304	25 pictures	1159 pictures
2M (16:9) 1920×1080	72 pictures	3235 pictures
640 640×480	243 pictures	10245 pictures

- The image storage capacity is for reference only when images are recorded on blank built-in memory or SD Memory Card. If movies are recorded, the image storage capacity is decreased. The actual image storage capacity may vary depending on the SD Memory Card and the subject.

Movie

	Built-in Memory	2 GB SD Memory Card
1280 30 1280×720/30 fps	15 sec.	13 min. 27 sec.
640 30 640×480/30 fps	30 sec.	25 min. 33 sec.

- The above figures are based on our standard shooting conditions and may vary depending on the subject, shooting conditions and type of the SD Memory Card used. If other data such as still images are recorded, recording time becomes shorter.
- Recording can continue until the built-in memory or the SD Memory Card is full, or the size of the recorded movie reaches 2 GB (when using a large capacity memory card). If recording stops at 2 GB, start recording again to continue to record the movie in blocks of 2 GB.

White Balance	Auto, Daylight, Shade, Tungsten Light, Fluorescent Light, Manual	
Lens	Focal Length	5.1 mm - 25.5 mm (approx. 28 mm - 140 mm in 35 mm equivalent focal length)
	Aperture	F3.9 (W) - F6.3 (T)
	Lens Composition	8 elements in 8 groups (5 aspherical elements)
	Zoom Type	Electrically driven
Optical Zoom	5×	
Intelligent Zoom	Approx. 7.5× at 7M, Approx. 36.0× at 640 (when combined with optical zoom)	
Digital Zoom	Up to approx. 7.2× (combines with 5× optical zoom to give zoom magnification equivalent to approx. 36.0×)	

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Shake Reduction	Still	High-sensitivity anti-shake mode (Digital SR)
	Movie	Electronic Movie Shake Reduction (Movie SR)
Display	2.7 inch wide-LCD, approx. 230,000 dots	
Playback Modes	Single-frame, 6-frame, 12-frame, Enlargement (max. 10×, scrollable), Folder Display, Calendar Display, Histogram Display, Deleting Selected Images, Slideshow, Image Rotation, Small Face Filter, Miniature Filter, HDR Filter, Digital Filter, Frame Composite, Movie Playback/Edit (Save as Still Image, Divide Movies), Red-eye Compensation, Resize, Cropping, Image Copy, Protect, DPOF, Start-up Screen	
Focus Modes	Autofocus, Macro, Super Macro, Pan Focus, Infinity	
Focus	Type	TTL contrast detection system by sensor 9-point autofocus (multiple/spot/automatic tracking AF changeable)
	Focus range (From lens face)	Standard : 0.4 m - ∞ (Wide-angle) 1 m - ∞ (Telephoto) Macro : 0.1 m - 0.5 m (Wide-angle) 0.3 m - 0.5 m (Mid-zoom) Super Macro : 0.05 m - 0.2 m (Fixed at Wide-angle) * It is possible to switch to Pan Focus or Infinity. * Face Detection AF is available only while the camera detects the subject's face.
	Focus Lock	By half-pressing the shutter release button
Exposure Control	Metering System	Multi-segment metering
	Exposure Compensation	±2 EV (can be set in 1/3 EV steps)
Face Detection	Detection of up to 16 people's faces (up to 16 face detection frames on the display), Smile Capture * Face Detection AE is available only while the camera detects the subject's face.	
Shooting Modes	Auto Picture, Program, Blue Sky, Landscape, Flower, Sunset, Night Scene, Night Scene Portrait, Portrait, Natural Skin Tone, Food, Digital SR, Kids, Pet, Sport, Surf & Snow, Fireworks, Frame Composite, Party, Candlelight, Text, Miniature Filter, HDR Filter, Green	
Digital Filters	B&W, Sepia, Toy Camera, Retro (Original image, Amber, Blue), Color (Red, Pink, Purple, Blue, Green, Yellow), Extract Color (Red, Green, Blue), Color Emphasis (Sky Blue, Fresh Green, Delicate Pink, Autumn Leaves), Soft, Brightness	
Movie	Continuous Recording Time	Approx. 1 second - until built-in memory or SD Memory Card is full (however, maximum size is limited to 2 GB)
Shutter Speed	1/2000 sec. - 1/4 sec., max. 4 sec. (Night Scene mode)	

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Built-in Flash	Modes	Auto, Flash Off, Flash On, Flash On + Red-eye
	Flash Range	Wide-angle: approx. 0.3 m - 3.6 m (approx. 1.0 ft - 12 ft) (Sensitivity: in Auto condition) Telephoto: approx. 1.0 m - 2.2 m (approx. 3.3 ft - 7.2 ft) (Sensitivity: in Auto condition)
Drive Modes	Single-frame, Self-timer (approx. 10 sec., approx. 2 sec.), Continuous Shooting, Burst Shooting	
Self-timer	Electronic control type, control time: Approx. 10 sec., 2 sec.	
Time Function	World Time	75 cities (28 time zones)
Power Source	Rechargeable lithium-ion battery D-LI108	
Battery Life	Number of Recordable Images approx. 200 pictures	* Recording capacity shows approximate number of shots recorded during CIPA-compliant testing (with display on, flash used for 50% of the shots, and 23 degrees centigrade). Actual performance may vary according to operating conditions.
	Playback Time approx. 130 min.	* According to the result of in-house testing. Actual time may differ depending on usage conditions.
	Movie Recording Time approx. 70 min.	
Interfaces	USB 2.0 (high-speed compatible) /PC/AV terminal	
Video Output	NTSC/PAL (monaural)	
Dimensions	Approx. 101 (W) × 46.5 (H) × 22.5 (D) mm (excluding operating or protruding parts)	
Weight	Approx. 105 g (excluding battery and SD Memory Card) Approx. 122 g (including battery and SD Memory Card)	
Accessories	Rechargeable lithium-ion battery, Power adapter, USB cable, Alternative Skins, Lens Ring (installed on camera), Software (CD-ROM), Strap, Operating Manual, Quick Guide	

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WARRANTY POLICY

All PENTAX cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the equipment does not show evidence of impact, sand or liquid damage, mishandling, tampering, battery or chemical corrosion, operation contrary to operating instructions, or modification by an unauthorized repair shop. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as hereinbefore provided. No refunds will be made on repairs by non-authorized PENTAX service facilities.

Procedure During 12-month Warranty Period
Any PENTAX which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representative of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your PENTAX was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your PENTAX returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy. In any case, however, shipping charges and customs clearance fees to be borne by the sender. To prove the date of your purchase when required, please keep the receipt or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their approved repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation for the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing.

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- **This warranty policy does not affect the customer's statutory rights.**
- **The local warranty policies available from PENTAX distributors in some countries can supersede this warranty policy. Therefore, we recommend that you review the warranty card supplied with your product at the time of purchase, or contact the PENTAX distributor in your country for more information and to receive a copy of the warranty policy.**

CE The CE Mark is a Directive conformity mark of the European Union.

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For customers in USA
STATEMENT OF FCC COMPLIANCE
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
  Increase the separation between the equipment and receiver.
  Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

* Consult the dealer or an experienced radio/TV technician for help.

For customers in Canada
This Class B digital apparatus complies with Canadian ICES-003.

Pour les utilisateurs au Canada
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FOR CALIFORNIA, U.S.A. ONLY
Perchlorate Material-special handling may apply. The lithium battery used in this camera contains perchlorate material, which may require special handling. See www.dtsc.ca.gov/hazardouswaste/perchlorate

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Declaration of Conformity

According to 47CFR, Parts 2 and 15 for

Class B Personal Computers and Peripherals

We: PENTAX RICOH IMAGING AMERICAS CORPORATION

Located at: 633 17th Street, Suite 2600
Denver, Colorado 80202 U.S.A.
Phone: 800-877-0155 Fax: 303-790-1131

Declare under sole responsibility that the product identified herein complies with 47CFR Parts 2 and 15 of the FCC rules as a Class B digital device. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on the statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. The above named party is responsible for ensuring that the equipment complies with the standards of 47CFR §15.101 to §15.109.

Product Name: Digital Camera

Model Number: Optio LS465

Contact person: Customer Service Manager

Date and Place: April, 2012, Colorado

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Information for Users on Collection and Disposal of Old Equipment and Used Batteries

1. In the European Union

These symbols on the products, packaging and/or accompanying documents mean that used electrical and electronic equipment and batteries should not be mixed with general household waste.

Used electrical/electronic equipment and batteries must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of these products.

By disposing of these products correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

If a chemical symbol is added beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in the battery at a concentration above an applicable threshold specified in the Battery Directive.

For more information about collection and recycling of used products, please contact your local authorities, your waste disposal service or the point of sale where you purchased the products.

2. In other countries outside the EU

These symbols are only valid in the European Union. If you wish to discard used products, please contact your local authorities or dealer and ask for the correct method of disposal.

For Switzerland: Used electrical/electronic equipment can be returned free of charge to the dealer, even when you don't purchase a new product. Further collection facilities are listed on the home page of www.swico.ch or www.sens.ch.

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